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THE NATIONAL ASSOCIATION OF NURSE ANESTHETISTS

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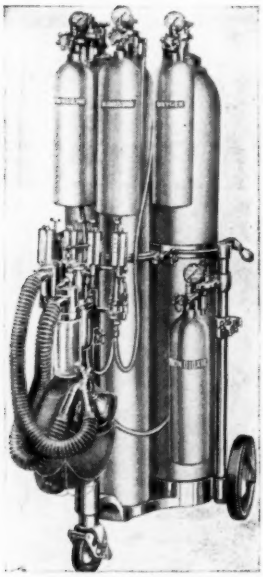

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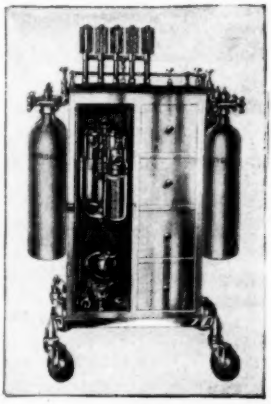

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The Bulletin of the National Association of Nurse Anesthetists

VOLUME 6, NO. 2 MAY, 1938

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EDITORIAL

The transference of National Headquarters from Cleveland to Chicago, marking the sixth milestone in our history, presents to us the need for study of the road covered, and serious consideration of the larger path we must now pursue.

Leaving Cleveland means only a change in geographical position, not a severing of ties which bind our association in gratitude and affection to the great 'University Hospitals' which gave it foundation, and extended help throughout early difficult years. Nor will be ever forgotten the devotion of our Headquarters group, who taking up the heavy burden of early organization—superimposed upon busy professional lives — so efficiently carried forward the work of the head office. This devotion multiplied by that of national and state officers, and sustained by the loyalty of our membership is the cause of and reason for the decision of your trustees to provide greater facilities for carrying out an enlarged scheme of activity.

Future plans will, we feel, be easier of accomplishment by our choice of location. Chicago because of its proximity and accessibility to other great cities naturally puts a larger group of members in closer touch with National Headquarters. Also the fact that it is headquarters for major medical and hospital associations, affords opportunity for contacts which will, we feel, promote cooperation and better understanding on common problems.

It is evident that the success of a program, designed to meet the widening needs of our National Organization, will largely depend on the degree of cooperation and help extended by the individual member in her particular state. It is pertinent therefore to suggest avenues through which each of us can create extension of interest.

First: through a campaign to increase membership in all classifications. Think for a moment of the significance of this statement. It not only includes the primary duty to maintain, by fulfilling our obligations, our present membership but implies realization of what it would mean, to every aspect of the work of our organization, if each one of us, by our efforts, could add one qualified nurse anesthetist as an active member and one person eligible for associate membership. Our concerted efforts to accomplish this would absolutely insure the success of any defined program.

Second: by making our association articulate with other professional groups, through the medium of the printed word. This implies not only preparation of instructive papers for our own 'Bulletin'—which is our primary concern—but also by release of such in medical journals, available to us, bring the educational work of the National Association before other and larger medical groups. Excellence of prepared material will admittedly be a determining factor in establishing the reputation of our organization as a precise and valuable contributor in the now challenging field of education. The wealth of clinical material available, providing a rich and intriguing field for research to the student, should make present educational contributions of much future value.

Finally a deepening consciousness in the minds of each of us, that the attitude of the individual member, in sum total, creates the 'Spirit' of the organi-

zation, and the fineness of that 'spirit' is the force that will make secure for our National Association a place of permanent value, in the field of medical service. If in our particular state and within our immediate circle of influence we individually do our part to build up a membership, that can be reckoned as a *unit* for solidarity of purpose in constant pursuit of the best and counted upon as *individuals* in constructive efforts to obtain it; the larger way we have now entered shall become a path of widening opportunity and worthwhile success.

AGATHA HODGINS

MID-SOUTH FOURTH ANNUAL MEETING

One of the most outstanding meetings of the year was held in Memphis, Tenn., February 16 and 17, 1938, by the Mid-South Post Graduate Nurse Anesthetists Assembly, which meets concurrently with the Mid-South Medical Assembly.

The Mid-South Post Graduate Nurse Anesthetists' Assembly was organized by state groups in Tennessee, Mississippi and Arkansas and the separate state associations comprising this organization are affiliated with the National Association of Nurse Anesthetists. The combined activities make for a more interesting and educational program, and the fact that this meeting is held concurrently with the Mid-South medical group makes it possible for the anesthetists to have as speakers on their program outstanding medical men from all over the country. Through the interest and cooperation of this group it became possible this year to obtain the papers read at the meeting for publication in the National Bulletin.

The Mid-South group is to be congratulated on the progress that is being made and the development of this inter-state group activity which affords a greater opportunity for the discussion of educational problems than would be possible in a small state gathering.

Miss Alice Maurine Sims of Memphis, Tenn., has been for several years Secretary of the Mid-South Post Graduate Nurse Anesthetists' Assembly, and Miss Harriett Hatchett, Fite Hospital, Columbus, Miss., was elected President at this meeting to serve for the year 1938.

LIST OF REGISTRANTS

Mid-South Post Graduate Nurse Anesthetists' Assembly
Hotel Peabody, Memphis, Tennessee

February 16-17, 1938

ARKANSAS

Miss Mildred Abington	2106 N. Sixth St.	Fort Smith
Miss Martha Brown	Davis Hospital	Pine Bluff
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Miss Winnifred Backworth	John Gaston Hospital	Memphis
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Miss Ada Hemsley	Methodist Hospital	Memphis
Miss Gertrude Hood	John Gaston Hospital	Memphis
Miss Zelia Holland	St. Joseph Hospital	Memphis
Sister Honorina	St. Joseph Hospital	Memphis
Mrs. Jennie C. Houser	124 Physicians & Surgeons Bldg.	Memphis
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Miss Lucille Kemp	1089 Madison Avenue	Memphis
Miss Mary Alice Kittrell	1121 Madison Avenue	Memphis
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Miss Ethel Sellers	631 Medical Arts Bldg.	Memphis
Miss Alice Maurine Sims	704 Goodwyn Inst.	Memphis
Miss Grace Skinner	Baptist Hospital	Memphis
Miss Josephine Stewart	Physicians & Surgeons Bldg.	Memphis

Miss Minnie Swetman	U. S. Marine Hospital	Memphis
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Dr. E. L. King, Prof. Obst., Tulane University	New Orleans, La.
Dr. E. R. Long, Director, Phipps Inst.	Philadelphia, Pa.
Dr. Henry Hedden, Supt. Methodist Hospital	Memphis, Tenn.
Dr. James R. Reinberger	Memphis, Tenn.
Dr. F. A. Willius, Assoc. Prof., Med. University	Rochester, Minn.
Dr. George W. Kosmak, Editor, Amer. Jour. Obst. and Gyn.	New York, N. Y.

ANESTHESIA IN HEART DISEASE

FREDRICK A. WILLIUS, M.D.,*
The Mayo Clinic, Rochester, Minnesota

The problem of anesthesia in heart disease concerns not only the anesthetist, but likewise the physician who decides on the necessity of operation and who carries out the surgical procedure. The patient who has heart disease does not constitute a normal risk. Even under the most ideal conditions of life, not considering anesthesia or surgical operation, these patients ordinarily succumb to their disease at a premature age and sudden death is not uncommon among them. Insurance companies for many years have recognized this fact and accept the applicant only after greatly increasing the premium; in the majority of instances they refuse to accept him under any circumstances.

Many factors determine the seriousness of heart disease, including the nature of the cardiac lesion, its extent, its tendency to progress and, of course, the function of the heart. The age of the patient is always an important consideration, as is the length of time that the heart disease has existed.

The heart disease of children and young adults is chiefly rheumatic carditis and congenital heart disease. Either type may exist and not materially increase the risk of anesthesia or operation, yet either may have resulted in such extensive damage and impairment of function as virtually to prohibit these procedures. Beyond adolescence all forms of heart disease are encountered but outstanding are coronary disease, hypertensive heart disease and syphilitic cardiovascular disease. Here again the tenets are the same. The patient, regardless of type of lesion, presents an individual problem and the most careful study and the most sound judgment must be exercised.

Of paramount importance in every

* Read at the meeting of the Mid-South Post Graduate Nurse Anesthetists' Assembly, Memphis, Tenn., February 16 and 17, 1938.

case is to determine whether surgical intervention is necessary. For instance, execution of a surgical procedure that is of doubtful value to the patient, or that is for relief of a condition that can be tolerated safely, is to be condemned. Operations that are imperative in the presence of such conditions as cancer, acute appendicitis, strangulated hernia, intestinal obstruction, certain diseases of the gallbladder, renal calculus, tubal pregnancy and so forth are justified. In many of the conditions cited, death is inevitable without surgical intervention and the added risk of heart disease must be accepted.

Patients during the stage of congestive heart failure should not be operated upon unless a dire emergency arises and when the procedure can be limited to a palliative one performed under simple, infiltrative or intravenous anesthesia. When operation seems to be inescapable, the patient who has congestive heart failure should, whenever possible, receive treatment until his condition has been sufficiently improved, if this is possible, to permit surgery to be undertaken with reasonable safety.

The anesthetist's responsibility begins when she receives the patient. The choice of anesthetic is usually determined by the surgeon. The nurse anesthetist is concerned almost exclusively with anesthesia by inhalation; therefore I shall confine my discussion largely to ether, nitrous oxide and ethylene or combinations of these anesthetic agents.

One of the most important considerations in the administration of anesthesia by inhalation is never-faltering alertness on the part of the anesthetist. She must be oblivious of all activity about her and devote every second of her time to the patient and to her procedure. She must plan the procedure carefully in advance, test out the equipment, have an ample supply of anesthetic agents within reach, be prepared for all contingencies and refuse to be interrupted by any one of the operating room staff. She must not attempt to watch the operation nor become interested in the gallery. She must have full control at all times of the depth of anesthesia, must recognize the symptoms of intolerance and be instantly ready to make whatever modifications in procedure that are indicated.

There must be constant observation of the pulse and prompt recognition of changes in its rate, volume, regularity and so forth. A blood pressure manometer should be kept in constant position so that frequent readings can be swiftly recorded during the period of anesthesia and operation. In all events, and particularly in the presence of heart disease, anoxemia or oxygen-want must be avoided. The diseased heart is already one that may have difficulty in carrying out its obligation in so far as oxygenation of the tissues is concerned and anoxemia, if sufficiently marked or prolonged, may result in acute heart failure and death. Cyanosis is evidence of marked anoxemia but it is important to recognize this condition prior to this glaring manifestation. Anoxemia is indicated frequently by an abnormally rapid respiratory rate, a rapid pulse with diminishing volume, and often by marked irregularity or marked slowing and fall in blood pressure.

Ideas regarding the relative merits of anesthetic agents vary greatly and exponents of one or another are legion. Probably the greatest accumulated experience under all possible conditions concerns ether. This of course for many years was the anesthetic of choice, and when properly administer-

ed it is found to be a safe and satisfactory agent. Its disadvantages are well known and comprise relatively long action, postoperative nausea and vomiting, and so forth. Nevertheless, it is a very safe agent when well given, particularly in the presence of heart disease. About eighteen years ago I made a careful survey of 10,000 ether anesthesias and in this representative group was unable to find a single death resulting from heart failure.

Nitrous oxide and ethylene have the advantage of producing more rapid and less prolonged anesthesia. There likewise is usually less nausea and vomiting during and after the administration. However, in abdominal surgery it frequently is difficult to obtain complete muscular relaxation without increasing the depth of anesthesia to the threshold of danger, so that frequently the supplemental use of ether is necessary. Sudden changes in the oxygen level are more prone to occur with nitrous oxide and ethylene than with ether.

Chloroform, with very few exceptions, has no place in modern anesthesia and will be dismissed without further comment.

In the presence of heart disease the duration of anesthesia is also an important consideration. It is always desirable to have the anesthesia of short duration, owing to the fact that both prolonged and deep anesthesia predispose to periods of anoxemia. Thus, combined anesthesia has a definite and valuable place in cases of heart disease; that is, perhaps the greater part of the operative procedure can be performed satisfactorily under infiltration or regional block anesthesia so that only short periods of light anesthesia by inhalation are necessary.

One of the most important safeguards in anesthesia in the presence of heart disease is cooperative management of the patient. By cooperative management I mean the interested understanding and harmonious relationship of surgeon, internist and anesthetist, with one common purpose in mind —the welfare of the patient. After the cardiac lesion has been recognized, the functional capacity of the heart has been determined, the necessity for operation has been settled, and everyone concerned in the patient's care is fully cognizant of the situation, then and then only are the details of procedure the confronting problem. Without doubt the patient's chances for survival are largely dependent upon the judgment and the execution of every participant in the procedure. The surgeon and his assistants must work rapidly and carefully. Unnecessary and unanticipated accessory procedures should be avoided, as for instance removal of a symptomless gallbladder when the objective is removal of an acutely inflamed appendix. Everyone concerned must appreciate the importance of time. The anesthetist must utilize the same exactness in performing her duty that the surgeon does in his. Under these circumstances, the average patient with heart disease has a splendid chance of uneventful recovery.

The gravest dangers confront the patient with heart disease if the lesion is not recognized, if its importance is not realized and if the surgeon or the anesthetist lacks skill. The possession or the lack of skill, regardless of profession, clearly separates the master from the novice.

In the profession of medicine and its branches, the members of which constantly bear the responsibility for human life, it is of paramount importance to attempt to attain the highest degree of proficiency in order to justify the

faith and confidence so willingly bestowed by the patient and his relatives. To possess average ability in one's chosen field is not sufficient to justify one in accepting this faith and confidence. No individual who is practicing any branch of medicine ever can reach that stage wherein he or she can rest content with his accomplishments or proficiency. When such individuals cease to improve their knowledge and their ability to perform their duties they do not stand still—they regress, because the rest of the world progresses and soon leaves them far behind. The individual who becomes imbued with the idea of his perfection is one not to be trusted, for there is no such status as perfection. I frequently have told recent graduates in medicine that while they are no longer medical students they are just beginning to be students of medicine.

In conclusion, it may justly be said that solving the problem of anesthesia in heart disease rests not so much on finding the ideal anesthetic as on developing the ideal anesthetist.

THE PLACE OF THE NURSE ANESTHETIST

HENRY HEDDEN, M.D., C.M., F.A.C.H.A.,*

Superintendent, Methodist Hospital, Memphis, Tennessee

My association with the nurse anesthetist covers a period of time much greater than I care to think about. It is almost twenty-two years since I met the first nurse anesthetist. Fresh out of medical school and beginning an interneship, I learned something about anesthetists and a lot about anesthetics from her. Later, I had to give a good many anesthetics myself, but I think that the patients who received their anesthesia at the hands of the nurse anesthetist were much more fortunate than were those put to sleep by myself. Somewhat later, she gave me a chloroform induction followed by ether for a tonsillectomy and I, as the patient, felt perfect confidence in the anesthetist. Probably most of my audience this afternoon have a more accurate knowledge of the history of the nurse anesthetist than I have.

Probably only once in a generation is there produced a man of such great intellect and breadth of vision that he is able successfully to set aside the old established rules of the game and later compel recognition from a whole profession. Such a man is George W. Crile of Cleveland, who I believe was one of the first to train a nurse to give his anesthetics and certainly the first to establish a school for nurse anesthetists. I think it is a rather remarkable comment to be able to state that when there are as many members of a new profession as there are nurse anesthetists in the United States, that the original and first such a one should be still active and honored by her fellows as is Miss Agatha C. Hodgins.

During the last few years there has been a great to-do in certain fields about the nurse anesthetist and her usurpation of the field of the medical anesthetist. Steps have been taken and even laws passed to displace the nurse anesthetist. I wonder whether those

* Read at the meeting of the Mid-South Post Graduate Nurse Anesthetists' Assembly, Memphis, Tenn., February 16 and 17, 1938.

who have been instrumental in this matter have been motivated by a great and unselfish desire to improve the quality of the anesthesias administered to their patients, or whether their principal motive was more selfish and mundane, nay, even a material and selfish motive.

As I recall it, all of the hullabaloo about the nurse anesthetist was brought about by the pressure of economic necessity. In other words, when doctors were hard pressed to meet their bills, to pay their rent, and to pay their income tax, they seriously sought means of recouping their losses in income. I have no accurate statistics to offer in this paper and have not had an opportunity to make a statistical study of the subject, but I am willing to make two bald statements regarding the economic phase of nurse anesthetists. One is that I doubt if there is a single physician in Memphis who makes as much as $500.00 in one year from giving anesthetics, and the other is that undoubtedly the cash income from anesthetics administered by nurse anesthetists in the city of Memphis was from $75,000.00 to $100,000.00 last year. This amount, if earned by, and pro rated among a number of qualified medical anesthetists would produce an income of $5,000.00 or $6,000.00 a year for fifteen or twenty adequately trained medical anesthetists. Of course, as you know, there lies the rub, i. e., to find fifteen or twenty *adequately trained* medical anesthetists. Perhaps to the aspiring young surgeon the giving of an anesthetic becomes a very humdrum, commonplace, and uninteresting procedure; and who has not seen the pro tem medical anesthetist craning his neck to peer over the anesthetic screen and see what is going on below the diaphragm?

When I was a medical student, prior to 1916, it seems that all the anesthetics given in the hospital where I received my clinical training were given by internes. Somehow or other in most cases the patient seemed to survive the shock of a surgical operation and a none-too-expert anesthesia and evidently got up and around. But this I did see on more than one occasion—the young surgeon who had snared him an unsuspecting appendix (or the owner thereof), was compelled suddenly to shuck cap, mask and gloves, and elbow the embryo anesthetist aside to save his patient's life by artificial respiration. It is seldom indeed that the surgeon of today who has a good nurse anesthetist working with him has to go through any such performance as the above.

I shall not undertake to enumerate the qualifications of a good nurse anesthetist. I think I am very fortunate in having three such on the administrative staff of Methodist Hospital. It seems to me women are peculiarly and temperamentally fitted for the administration of anesthetics. They may not know all of the physiology of respiration and all the blood chemistry involved, but they seem to be able to induce anesthesia with the very minimum of apprehension on the part of patient and physician and to bring the patient through with very little concern, apparently, to anyone.

Someone recently stated that there were probably 5,000,000 paid-for anesthesias administered every year in the United States by nurse anesthetists. I estimate that this represents a potential cash income of $50,000,000.00 to $75,000,000.00, so is it any wonder that when the doctors realize this, they should hope to recapture the field of endeavor which they have spurned and scorned in a large measure as being unworthy of their professional attainments?

I might spend some time in describing the place of the nurse anesthetist in the hospital staff organization, but I think this has been done better by Dr. Joseph Doane in his paper read last September in Atlantic City and printed in the February, 1938, number of the Bulletin of the National Association of Nurse Anesthetists. Whenever Dr. Doane writes of matters in the hospital he speaks with authority and is entitled to respect. Dr. Doane thinks that the anesthetist should not answer to the Superintendent of Nurses, nor to the Operating Room Supervisor, and not even to the Chief Surgeon of the hospital, but, if there be a medical officer in charge, directly to him. If the superintendent of the hospital is not medically trained, he usually has a medical officer as assistant; to him the anesthetist should be responsible.

Sister John Edward, S.C., R.N., formerly of the Good Samaritan Hospital, Dayton, Ohio, had an excellent article on "The Ideal Nurse Anesthetist" in a recent issue of HOSPITALS, to which I should like to refer any who would like to pursue that subject further. The status of the nurse anesthetist in the hospital was excellently covered in a symposium of the American Hospital Association and is reported on page 351 of the Transactions for the year 1934. Mrs. Gertrude L. Fife, President of the National Association of Nurse Anesthetists of that year, gave an excellent paper on "The Field of the Nurse Anesthetist." Dr. B. A. Wilkes, that grand old veteran of the hospital field, formerly at the Missouri Baptist in St. Louis, later at Cape Girardeau, but now of Hollywood, pays a grand tribute to the nurse anesthetist and it is very well worth reading.

A battle, if such it might be called, between the nurse anesthetist and the medical profession for a future foothold, is well outlined in the October, 1936, issue of HOSPITALS in an article by Dr. Walter S. Goodale, Superintendent of the Buffalo City Hospital, consisting of a paper he read at the New York State Nurse Anesthetists' convention. I personally am inclined to feel that the so-called battle is no longer a battle, for two reasons. First, the improvement of the doctor's income as a result of improved conditions of the last two or three years, has removed from his thinking the economic pressure and secondly, the opinion of the California courts that the nurse who gives an anesthetic is not practicing medicine, is going to have a very marked influence on future suits to prevent nurses from giving anesthetics. In a general way, the court held that to practice medicine within the meaning of the terms of the act was to "diagnose, prescribe, and treat" and that according to all of the evidence submitted before the court, the nurse anesthetist did not diagnose or prescribe, but that she only administered a drug at the instance and under the direction of the physician. It appears that the nurse anesthetist is considered by the Supreme Court of the State of California to have remained true to the tenets of her profession of nursing in carrying out the doctor's orders and not attempting to take the doctor's place by making a diagnosis or ordering treatment. It seems to me that so long as nurse anesthetists remember this, they have little to fear at the hands of either physicians or legislators.

ENDOCRINOPATHIES AFFECTING ANESTHESIA

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In the effort to make this talk of some interest and possibly of some practical value, I should like to present what I have to say under three headings: (1) endocrine disorders that affect patients to whom you may be called upon to give anesthetics, (2) endocrine disorders that are of especial concern to women and particularly to nurses, and (3) the endocrine aspect of essential hypertension and diabetes mellitus with some work that we have been doing along that line at the Illinois Central Hospital in Chicago.

Endocrine disorders that render an anesthetic difficult or more dangerous are not numerous. Beginning with children, we think first of persistent thymus. There is no positive way in which the nurse anesthetist can recognize this condition with any degree of assurance. Even the doctor may have difficulty. However, if the youngster is inclined to be fat and to have a very short neck, and gives a history of numerous attacks of croup and upper respiratory infections, you can at least look upon that patient with some suspicion and be prepared for trouble, although you will not meet it in every case by any manner of means. While there is much argument as to whether thymic death is a myth or a danger, the fact remains that sudden death does occur in patients who at postmortem are found to have an enlarged thymus. This condition may persist into adult life. Dr. Ray of Pittsburgh, for example, tells of a beautiful blond who engaged in an argument with her boy friend. He pushed her rather violently and she fell to the walk and died very quickly. At autopsy this woman was found to have an unusually graceful body, with narrow waist and graceful curved hips and a very scant amount of body hair. The blood vessels were as thin as paper and one of them had ruptured into the brain, causing death. Of course, not every woman having a graceful body has an enlarged thymus, but thin-skinned, delicate women of graceful mold are not good subjects for anesthesia.

The patient with myxedema or less severe degrees of hypothyroidism also exhibits considerable risk, but if the recognition of this condition cannot be made with certainty by the anesthetist, she can at least be put on her guard by what she can easily see. These patients are usually overweight; the skin is dry and rough; the face is apt to be round with a tendency to obliteration of the nasolabial fold, with some thickening of the lips, narrowing of the palpebral fissures and thinning of the outer third or half of the eyebrows. The nails may show ridges or white spots. The pulse is apt to be slow, although under the excitement of an impending operation this may not be true. These patients tolerate morphine very poorly.

Patients with marked degrees of pituitary deficiency, either of the anterior lobe or of both lobes, have less than the average amount of resistance. They are not easily recognized unless they exhibit the pituitary type of obesity— that is, an accumulation about the pelvic and shoulder girdles with little below the elbows or knees or above the

* Read at the meeting of the Mid-South Nurse Anesthetists' Assembly, held in Memphis, Tenn., February 16 and 17, 1938.

clavicles. If the anterior lobe is deficient during the growing period, the patient is apt to be of less than average stature and delicate framework with perhaps some brownish pigmentation about the angles of the mouth and temples.

Victims of Addison's disease and less severe forms of hypo-adrenia are also intolerant of drugs, including anesthetics, but it will be difficult for the nurse anesthetist to protect herself in such cases unless the doctor in charge tells her that the condition exists. Of course well-marked cases of Addison's disease might be suspected from the history of the case and this might be confirmed by the general pigmentation with localized emphasis in the axillary folds and about the nipples, with perhaps some pigmentation about the lips or in the palms of the hands. But such cases rarely come to operation.

Occasionally women who are victims of ovarian insufficiency come to operation for gallbladder disease or appendicitis, when both of those organs are healthy. For example, some years ago a Memphis girl thirty-five years old was referred to me by the Illinois Central. She complained mainly of headache, which she said she had had all her life, occurring in the back of the neck and over the eyes. She complained also of abdominal pain, nausea and vomiting, constipation and lumbosacral pain. Her menstrual periods were late in onset, occurring at fifteen "after medicine had been given to bring them on." They occurred at twenty-one to twenty-four day intervals, lasted three to five days and were very painful at first, the pain decreasing as the flow established itself. Painful periods alternated with those less so,—an important indication of ovarian insufficiency.

This woman tolerated less than thirty grams of galactose, which is significant of ovarian insufficiency. It was believed that she had some gall tract pathology, though not of a nature warranting surgical treatment, coupled with an ovarian insufficiency. (Her appendix and one ovary had been removed some ten years previously.) In the beginning the ovarian insufficiency was considered the less important of the two. However, treatment consisting of injections of ovarian residue between periods and estrogen just before the onset of the period was begun in July, 1930. On November 22, 1930, she reported her periods free from pain and said she had been relieved of all the abdominal distress, nausea and vomiting. The headache had disappeared and she had gained ten pounds in weight.

In view of her history and the ultimate relief afforded by the treatment, it seems quite certain that the hypogonadism was responsible for most of her complaints. If there was any pathology in the biliary tract, it evidently caused few symptoms.

Some years ago the late Dr. William Engelbach reported the case of a girl who experienced a great deal of abdominal pain with persistent nausea and vomiting. For this she had undergone a number of exploratory operations with negative findings. Dr. Engelbach made a diagnosis of ovarian insufficiency and treatment along that line promptly stopped the pain, nausea and vomiting and was followed by considerable gain in weight and restoration to health.

When Graves' disease, or exophthalmic goiter, was regarded as a purely surgical condition, a good many women had part of their thyroid removed with little or no relief of symptoms because their real trouble was a pituitary and adrenal disturbance. This mistake is made less frequently now, because it is generally recognized that this dis-

ease is not one of the thyroid per se, but is a constitutional affair which may involve not only the thyroid but also other endocrine organs, particularly the adrenals and pituitary.

There are two conditions in childhood which probably are of more concern to women because they seem to be the ones who look after children's health. I refer particularly to Froehlich's disease and undescended testicle. Always it is the mother who becomes concerned about these things.

Froehlich's syndrome is so widespread that nearly every neighborhood has one or two examples. When we see a youngster who is rather short for his age and quite fat we suspect this syndrome and an examination of the genitalia usually confirms the diagnosis. It can be made almost that easily. However, the victims are not always short; they may be normal or even tall for their age; but they are always obese and lacking in development of the genitalia. The condition should be recognized early and adequately treated because it can be helped so greatly that we can almost say we have a specific for it and can "cure" the trouble. In every instance we use thyroid to the point of tolerance and extract of the posterior lobe. We also use either an extract of the whole anterior lobe, a sex hormone preparation from it, or an extract from pregnancy urine or the placenta containing a pituitary-like principle. Treatment needs to be carried out over a considerable period of time and supervision should be continued until after puberty. Treatment should begin as soon as the condition is recognized; nothing is gained by waiting.

Until the pharmaceutical houses gave us gonadotropic preparations such as antuitrin-S, follutein and others of that type, undescended testicle was regarded as a purely surgical condition. Nowadays, however, every case should have the benefit of endocrine treatment. This should be persisted in for a period of six months or more. If descent has not occurred by this time, it is said to be not likely to occur at all, although this does not quite square with my experience. If complete descent is not attained by endocrine treatment, at least the surgeon's work is made easier and more certain of satisfactory results. Recently Huhner has reported the successful treatment of a case of this kind in an adult about thirty years of age.

Menstrual Disorders. Within the last few years the pharmaceutical houses and research workers have given us a large number of preparations which are very effective in the treatment of menstrual disorders. They are divided into two classes: the estrogenic preparations, which act directly on the genital tract, such as theelin, amniotin, et cetera, and the gonadotropic preparations which seem to act by stimulating the ovaries to renewed activity. Delayed puberty can many times be corrected. Menorrhagia, or so-called functional uterine bleeding, can be controlled in this way and dysmenorrhea, sometimes but not always, corrected. At the same time conditions such as frigidity and sterility can be corrected by these same therapeutic agents. Sterile marriages are many times terminated by the advent of a healthy baby after a careful course of endocrine therapy. Even when the sterility is not corrected, the sex life of the wife may be completely changed by correction of her frigidity.

Habitual and threatened abortion can be controlled in some cases by the use of an extract or preparation from the corpus luteum known as progestin, and finally, when all of these measures fail to control menstrual disorders, small doses of the X-ray applied to the pituitary and the ovaries or both ac-

complishes the desired results. The doses used are so small that they do no damage. At this time I should like to protest as strongly as possible against the practice of giving large enough doses of X-ray or radium to the ovaries to produce the menopause immediately. Such a procedure is usually followed by many discomforts.

The Endocrine Aspect of Diabetes Mellitus and Essential Hypertension. You will recall that the pituitary and the adrenals both normally elaborate substances which, when injected into the body, have a tendency to raise blood sugar and elevate blood pressure. When tumor or hyperplasia of the organs occur, with overproduction of their hormones, hypertension or hyperglycemia or both are found. For example, about 40 per cent of acromegalics have elevated blood pressure and a diabetes which does not respond very well to insulin. On the other hand, animals that are deprived of their pituitary or their adrenals have a low blood pressure and a low blood sugar. The human animal who has a deficiency of the pituitary or the adrenals or both has a low blood sugar, low blood pressure and increased tolerance for carbohydrate. On the basis of these and many other observations we decided that these two syndromes in the human animal were in many cases more likely to be due to a functional disorder of the pituitary or the adrenals or both than to anything else, and we thought the X-ray ought to reduce this functional abnormality to normal. You will all recall, of course, that the X-ray is used in the treatment of menstrual disorders — amenorrhea, dysmenorrhea and menorrhagia—and it appears to be equally effective in all of these conditions, though the conditions themselves appear to be diametrically opposite each other in some respects. And so we decided to irradiate the pituitary and the adrenals of patients having either diabetes or hypertension or both in the hope that the correction of these endocrine disturbances would be followed by disappearance of these two syndromes. The dosage used is 120 kilovolts, 3 milliamperes, 50 cm. skin target distance, 2 mm. aluminum filter, delivering 50 R to both sides of the pituitary and the adrenals. As you see, we use extremely small doses of X-ray so that not the slightest damage accompanies or is due to this method of treatment.

The accompanying tables show our results with this method of therapy.

Table I

Hypertension

Adequately treated and followed			252
Improved	174	69.0 per cent	
Relapsed	27	10.7 "	
Remaining improved	147	58.3 "	
Unimproved	78	30.9 "	
Insufficient treatment			52
Cannot be followed			27
			331

Table II

Hypertension

Experience of Other Men

	Cases	Cases Improved	Per cent
Martin	100	80	
Baker	40	30	
McGuffin	40	30	
Boswell	12	11	
Finch	12	9	
Konantz	6	3	
Parkhurst	5	3	
Hadley	4	4	
Miscellaneous	56	47	
	275	217	78.9

Table III

Hypertension and Diabetes

		Per cent
Improved as to both conditions	12	35.3
Improved as to hypertension only	8	23.5
Improved as to diabetes only	4	11.7

Improved but relapsed	2	5.8
Unimproved	1	2.9
Insufficient treatment	6	17.9
Cannot be followed	1	2.9
	34	

A few case histories will show how patients respond to this treatment.

Mr. S. C., a lawyer, age 52, referred by Dr. Don Smith of Hope, Arkansas, December 21, 1936. Complaints: diabetes discovered in May, 1936, at which time he had a severe acidosis; hypertension for 4 or 5 years; no symptoms except the left leg was cold and inclined to drag since a "spell" in May of 1936. Diet C. 90, P. 60, F. 90, insulin 22 units. Blood pressure 170/90; blood sugar after breakfast and insulin 94.7 mg.; weight 155 pounds. The general examination was otherwise not significant. The urine, blood count and blood chemistry were normal. One X-ray treatment to the pituitary and adrenals was given on December 22, 1936. He took his last dose of insulin December 24, 1936, and 40 grams of carbohydrate were added to his diet. His blood sugar readings afterward were as follows:

12/24/36	74.3 mg.
12/26/36	151.1 mg.
12/28/36	141.0 mg.
12/29/36	119.6 mg.
	99.0 mg.
12/30/36	87.7 mg.
12/31/36	84.3 mg.
1/2/37	71.1 mg.

His blood pressure fell to 120/70 on December 24 and rose to 150-160/95-105 on January 2, 1937. He was seen again December 13, 1937, when his blood pressure was 165/95 left, 180/105 right. He was given another X-ray treatment. On December 18 his blood pressure was left 160-145/80, right 160-150/85-90; blood sugar 115 mg.; weight 186 pounds.

Mrs. M. was a 59-year-old woman who had had a subtotal thyroidectomy for Graves' disease in 1928, another in 1929 and a third operation was being urged upon her when she first came under my observation in the fall of 1934. She presented the typical picture of Graves' disease. There was a considerable nodule of thyroid tissue on the right side. Her B.M.R. was plus 56 per cent. Her blood pressure was 205/75. After six treatments, at weekly intervals, her blood pressure was 135/95 and her B.M.R. was plus 18 per cent. Seventeen months after the last X-ray treatment, the blood pressure was right 165/90; left, 155/90, and the B.M.R. was plus 14 per cent. The mass of thyroid tissue seemed unchanged.

Mrs. C., aged 46, complained of nervousness, irritability, palpitation, tachycardia and insomnia. There was a tremor of the fingers and tongue. The B.M.R. was plus 48 per cent. The thyroid was not apparently enlarged. There were no eye signs. The blood pressure was 170/100. After three treatments, extending over a period of about two months, the blood pressure was 145/90, and the B.M.R. was minus 6 per cent. The symptoms were completely relieved.

Various surgical procedures have been devised, particularly for the treatment of hypertension. These involve cutting various sympathetic nerves that supply the adrenals and other structures in that neighborhood. The symptomatic relief following these surgical procedures appears to be similar to that we have observed to follow irradiation, but when the condition is due to a tumor of the adrenal cortex, then, of course, surgery is the method of choice. We have seen a few patients temporarily relieved by the X-ray who later submitted to section of the splanchnic nerves with only temporary relief of either symptoms or hypertension.

You may be called upon to give an-

esthetics for these various sympathectomies. So far as my observation goes, they are no more difficult than other major operations. However, in this connection you might be interested in the experience that Dr. Cushing related, in which patients who were given ether anesthesia for removal of brain tumor died within the next few days from rupture of the stomach, which at autopsy was found to be more or less destroyed by autodigestion. For a long time it was thought that the position of the patient and the anesthetic were responsible for this development, but it was later realized that it was the irritation of the brain structures which really was responsible for the stomach condition. Following these observations Cushing revived the neurogenic theory of peptic ulcer and assembled a vast amount of evidence to support the belief that in many cases some disturbance of the vagus or sympathetic was responsible for the ulcer. Certainly you are all familiar with the fact that patients with peptic ulcer are much worse when they are subjected to worry or other excitement, and that ulcers of men are apt to be worse when they smoke too much. He also cited the case of a man who had an inoperable tumor about the third ventricle and also a peptic ulcer which healed after irradiation of the brain tumor.

A few of our patients with hypertension had various forms of indigestion or dyspepsia which resembled gallbladder disease. This cleared up after X-ray therapy to the pituitary and adrenals.

This treatment is entirely safe, very simple and a quite worthwhile procedure to which any patient suffering from hypertension or diabetes should have access.

OBSTETRICAL ANESTHESIA

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I am certainly very glad to be here and to be accorded the privilege of saying a few words about anesthesia as applied to obstetrics. I started my career as an anesthetist and at that time we used ether and nitrous oxide, so I continued this until we became engaged in the World War. After the war I had become more or less interested in obstetrics so I continued in this work and naturally I gave up anesthesia. So, today, I do feel that I know a little something about both phases.

I feel that it is better to consider both the subjects of analgesia and anesthesia, when discussing the relief of pain in labor, as anesthesia alone is not sufficient for the average case.

It is interesting to recall that the first extensive use of anesthesia was in the field of obstetrics. After the discovery of the anesthetic properties of ether by Crawford Long, and the historic demonstration of ether anesthesia by Morton, Sir J. Y. Simpson began to use this drug in obstetrics; later he changed to chloroform. I am sure you are all familiar with the strong

* Read at the Mid-South Post Graduate Nurse Anesthetists' Assembly, February 16 and 17, 1938.

ecclesiastical opposition that he encountered, based on the expulsion of Adam and Eve from the Garden of Eden, at which time the woman was told that in pain and sorrow she would bear her children. The English clergy held that any attempt to mitigate the suffering of childbirth constituted a flagrant disobedience of the divine command. As you all know, the controversy was settled by Queen Victoria, who promptly resorted to chloroform to alleviate the discomfort of her numerous accouchements. Of course, the Queen could do no wrong, so the quarrel terminated. Since then, the use of this drug in labor has been known as "Chloroform a la reine." It still holds its own as a most useful method.

All of the various anesthetic agents and pain-relieving drugs have been tried in labor, singly or in combinations, and many satisfactory systems have been developed. No one method is ideal, but very good results can be obtained, providing one has a clear idea of the advantages and disadvantages of the drugs employed, and bears in mind the fact that different patients will react differently to these agents. Let us consider the various methods, bearing in mind the fact that in home delivery the method must be simpler than in hospital obstetrics.

Chloroform, as mentioned above, has been, and still is, very popular in obstetrical practice. Correctly administered, it seems to be much safer than when employed in surgery. It should be used as an analgesic, giving a few drops on an open cone during the latter part of the second stage of labor. The analgesia may be deepened to anesthesia during the actual delivery. For obstetrical surgery requiring anesthesia for an appreciable period, ether should be substituted. The advantages of chloroform are: (1) its small bulk, (2) its quick action, (3) its rather pleasant odor, and (4) the fact that it can be used in the presence of an open flame (such as an oil lamp or a fire in a fireplace). Its disadvantages are: (1) the slight possibility that it might cause sudden death by its toxic action on the heart (as has often been the case in general surgery), and (2) its tendency to cause extensive liver damage and death in four or five days when given for three-quarters of an hour or longer to the surgical degree. Thus it is particularly contraindicated in the toxemias of pregnancy. Hence it has been supplanted in most quarters by ether or by one of the gaseous anesthetics.

Ether is probably the most useful anesthetic for household obstetrics, especially when used (in a primipara) in combination with some first-stage analgesic, as described later. It is given intermittently, as is chloroform, during the second stage. Being less toxic, it can be administered over a longer period of time, say one to one and a half hours. Care must be exercised that an open flame is not near the patient's head. It is not so pleasant to take, is liable to cause some irritation, with resulting bronchorrhea and should not be given to a patient with a respiratory infection or a renal lesion. It is safer than chloroform for cardiac cases. In other words, it is fairly satisfactory for the healthy patient; however, it is not so satisfactory an analgesic as the gaseous anesthetics.

"Twilight Sleep" has been enthusiastically recommended and just as vigorously condemned since its introduction about thirty years ago. As originally advocated, it consisted of the administration of morphine and scopolamine according to a definite schedule. Time does not permit a detailed review of the advantages mentioned by its proponents, and the disadvantages listed by its opponents; suffice it to say that the true status of this method is about

midway between the positions assigned by these two groups.

Properly administered by those familiar with their action, these drugs will provide very satisfactory analgesia. The patients are inclined to be restless, requiring constant watching, and the administration is regulated by the effect; thus an adequate and especially trained personnel is essential, hence it is applicable only to hospital practice. It has been claimed that twilight sleep tends to prolong labor, to increase the percentage of operative deliveries, to increase the percentage of narcotized babies, and to be responsible for many cases of postpartum hemorrhage. All these contentions are denied by its advocates and there appears to be no doubt that these developments can be prevented by a careful technique. A modified form is used rather widely, consisting of an initial dose of 1/6 grain of morphine, and 1/150 grain of scopolamine, followed by two to four doses of 1/150 to 1/200 grain of scopolamine, or better, by a barbiturate, with the addition of a gaseous anesthetic in the second stage. The original twilight sleep technique is very rarely employed. We must remember that morphine in the last three or four hours of labor may markedly depress the baby's respiratory center.

Gwathmey, some years ago, proposed synergistic rectal analgesia. The patient is first given 1/8 to 1/6 grain of morphine sulphate, with 2 cc. of 50 per cent magnesium sulphate solution, by intramuscular injection. This quiets the mother, and Gwathmey claims that the effect can be continued by the administration, in one-half to one hour, of an ampoule of the magnesium sulphate solution without the morphine. When the effect begins to wear off, and the pains tend to become stronger and closer together, an ether-oil-quinine mixture is administered by rectum. This is generally sufficient to carry the patient well into the second stage, when ether or some other inhalation anesthetic is employed. In long labors, the rectal injection may be repeated in four or six hours. Properly employed, this is a satisfactory method. The same objections have been raised as in the case of twilight sleep; most of these difficulties can be obviated by a careful technique but it does appear to me that this method at times tends to prolong labor. However, it is rather widely employed with great satisfaction, and can be used in the home, provided a nurse who understands the method is in attendance.

The various gaseous anesthetics have become very popular, but their use is confined to the second stage. They are given intermittently, with each pain, and as they are practically non-toxic, and are quickly eliminated, they may safely be administered over a longer period of time than is the case with chloroform or ether. Before the introduction of the barbiturates, I at times employed a gas for two or three (and rarely three and a half to four) hours in a tedious primiparous delivery. Nitrous oxide-oxygen is fairly satisfactory, but I personally prefer ethylene-oxygen, which gives better analgesia, can be more readily deepened to anesthesia, and is employed with a higher percentage of oxygen. Cyclopropane is also very satisfactory, but it is much more powerful, hence requires greater care and skill in its administration.

In the past few years, various barbituric acid derivatives have been introduced, and the manufacturers seem to feel that time is wasted if they fail to elaborate a new one weekly. These drugs are particularly useful in the first stage, either alone or in combination with morphine and scopolamine. When used alone, the patient is frequently restless, hence the added drugs

are of value. Sodium amytal and nembutal are the ones most widely employed and the latter seems to be becoming more popular than the former. Seconal is also very satisfactory, but its effects are not so prolonged as in the case of the first two drugs mentioned. Sodium amytal, in doses of six to nine grains, generally combined with $\frac{1}{6}$ grain of morphine (with at times the addition of $\frac{1}{150}$ grain of scopolamine) generally gives satisfactory analgesia for several hours. An additional dose of sodium amytal, three grains, may be employed once or twice. Nembutal may be employed alone, but seems to be more efficient when combined with scopolamine. Many obstetricians use 3 grains of nembutal and $\frac{1}{150}$ grain of scopolamine as the initial dose, using another dose of nembutal later, if needed. Galloway, however, prefers one large dose, giving six to nine grains, with scopolamine added. In the past year or so, sigmodal, a barbiturate proposed for rectal administration, has been introduced, and is proving very satisfactory. The initial dose is 10 cc., which as a rule provides satisfactory analgesia for from three to six hours. An additional dose of 3 to 5 cc. may be employed when indicated. When these drugs are used, one of the gases is employed for the latter part of labor and for delivery. Some have claimed the drugs narcotize the baby, but this is not the case if they are carefully used. Paraldehyde, generally combined with benzyl alcohol, for rectal administration, has been advocated by Kane and others as a first stage analgesic. I have had no personal experience with it, but it seems to give very satisfactory results in the hands of those employing it.

Local and spinal analgesia have definite but limited fields of usefulness. The same is true of sacral and epidural analgesia, and sacral nerve block. As these are surgical procedures, I shall not discuss them further.

What, then, can be considered to be a satisfactory method of carrying a patient, particularly a primipara, through labor with a minimum of discomfort and a maximum of safety for mother and child? I shall answer this question by describing the techniques that I personally prefer. I have long since given up the use of twilight sleep and of the Gwathmey method. I may at times use morphine, alone or combined with scopolamine, in a long, tedious labor, for the purpose of securing needed rest. For the usual obstetrical case, I prefer 3 to 4½ grains of nembutal, with $\frac{1}{150}$ grain of scopolamine, as the initial dose, or 10 cc. of sigmodal by rectum. When the pains are regular and are becoming uncomfortable and the cervix is thinning and one or two fingers dilated, this initial dose is given. The discomfort of the patient is more important than the state of the cervix. Many multiparae and an occasional primipara will go through, or nearly through, the first stage with practically no suffering, and will require only an inhalation anesthetic. To resume: this initial dose will frequently carry the patient through the first stage. If not, and she begins to arouse and to become conscious of her pains, 1½ to 3 grains of nembutal (if that drug is used), or 3 to 5 cc. of sigmodal (if that preparation has been selected) is administered. At times, ⅛ grain of morphine with the second dose of nembutal seems to be of great help, and does not appear to harm the baby. I may state here that for the past year I have employed sigmodal almost to the exclusion of nembutal, with most satisfactory results. When the cervix is fully dilated or almost so in a primipara, or one-half to two-thirds dilated in a multipara and the pains are regular and strong, ethylene-oxygen is begun. This is given inter-

mittently at first, and the patient is encouraged to "bear down" and thus to assist in the progress of the labor. When the head is distending the perineum the anesthetic is deepened and is given continuously. Normal delivery is the rule in multipara; the primipara labor is usually terminated by low forceps. The babies usually cry promptly and those that do not do so are easily resuscitated and give no trouble. It has been a long time since the condition of the baby has given me any uneasiness. I might add that I have never felt that the babies I have delivered have been jeopardized or harmed by the analgesics and anesthetics given to the mothers during labor.

In conclusion, I feel that the various methods, carefully employed and with vigorous supervision of the condition of the mother and child, will all give satisfactory results. Each obstetrician will naturally choose the one he prefers, and will modify it to suit the individual case. I can see no risk of injury to mother or child unless the drugs are carelessly or recklessly employed. One cannot guarantee an absolutely painless labor to each mother, as different women react differently to these agents. I am certain that at times these analgesics and anesthetics prolong labor, but not to any great extent. Even so, the relief obtained is worth the delay, which does not harm mother or baby. I would emphasize that careful and continuous supervision and limitless patience are essential in securing satisfactory obstetrical analgesia.

ORGANIZATION

HARRIETT HATCHETT*

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The word "organization" when applied to our group embodies and implies very definite functions of service as outlined in the articles of our constitution, wherein is stated as among the purposes of the Association:

> "To facilitate efficient cooperation between nurse anesthetists and the medical profession, hospitals and other agencies interested in Anesthesiology, and to accomplish as nearly as possible complete protection to the public, as well as to protect the professional rights of the association and its members."

An organization must have a beginning, effected by a group, which may be large or small, but is usually small. The group must be made up of fair-minded women, who, visualizing with keen judgment the future of the cause, are willing to work shoulder to shoulder with fearless determination until such visions are realized.

This group may be untrained for the work of organization, as is often the case, therefore the membership at large must be broadminded and bear with them in their efforts, and be lenient when "bound-to-be" mistakes occur. Sometimes many definite errors are made, which more often than not can be attributed to a lack of the necessary training and experience. All of us have been in this same class at some-

* Read at the annual meeting of the Mid-South Post Graduate Nurse Anesthetists' Assembly, Memphis, Tenn., February 16 and 17, 1938.

time—untrained and unfit, though willing to do things correctly. Therefore let us think along terms of training leaders—creating interest among the younger members in the study of procedures, and mingling with other club groups in order to learn from observation the different procedures necessary under various circumstances. Free discussion of matters concerning our own group activities will create within our organization an atmosphere of cooperative participation and freedom for each member—freedom of thought and speech so that each member will feel at liberty to voice an opinion before the group. Where this spirit is evidenced there will be a noticeable decrease in the number of disgruntled members, and less "pow-wowing" after meetings regarding the matters that were before the assembly for discussion and action.

An organization cannot achieve its goal—"success," by standing still. The only way to prevent stagnation and eventual death of an organization, regardless of its size, is to endeavor to establish precedents from the very beginning that will not at some time in the future tend to break down and destroy those principles for which the membership has labored, thus displacing progress with definite retrogression. The most common cause of this state of affairs, in the opinion of authorities, is what is known as the "one-man rule," or the "small group domination." A rotation of officers is necessary to avoid this and limitation of the term of office is advocated as the greatest stimulus to all organized groups. Each officer has ample opportunity to give all that she may have to offer of talent and experience within the term of office designated in the by-laws, and should feel at the expiration of her term that she has used all the ingenuity which she possesses in the performance of her duties. With the incoming new officers there is latitude for greater developments, and new blood is most essential to the life of all organized groups.

In order to build a successful organization we must develop workers by encouraging each member to participate in the activities of the organization. The fact should be stressed that her duties are essential to its well-being, and that if she develops a lack of interest and permits a lagging in the performance of her duties, whether serving in the capacity of an officer or a committee member, the progress of the entire group will soon be retarded.

Another important factor in organization must not be overlooked—that of the cooperation of every member in evidencing a willingness to serve whenever asked, in any capacity, from committee member up. The heaviest work of organization is carried on chiefly through committees, therefore the work of each member serving on a committee is of great significance, and the responsibility entailed should be taken seriously.

In conclusion, may I ask that we all leave this meeting with a greater determination than ever before to embody our motto—"Service" in our contacts with the surgeons, the hospitals and the lay people.

BANQUET GUEST SPEAKER

at the meeting of the Mid-South Post Graduate Nurse Anesthetists' Assembly held in Memphis, Tenn.,

MRS. WILLIS C. CAMPBELL

Memphis, Tennessee

It has been my privilege to meet with many interesting groups during my life, but please believe me in my sincerity when I tell you that I have never been more proud or happy over any experience than I am at being here tonight in the midst of such a distinguished gathering of women. Truly I consider it an honor. I know I speak for Memphis as a whole when I say that we are glad and proud to have with us this week the joint meeting of the Mid-South Post Graduate Nurse Anesthetists' Assembly and the Tennessee State Nurse Anesthetists' Association. We hope you will like us so well that you will come back again and again.

However, I am going to register a complaint against you tonight, and that is, the tongue-twisting title by which you are known. I make this complaint now while I am having things my own way and am in full possession of all my faculties, for when you have us in your power, professionally, we are helpless. You put us in a condition where we cannot protest, like the dentist who puts half his office furnishings into our mouths and then proceeds to cross-examine us when we are utterly defenseless.

Seriously, though, even if I do find your title hard to pronounce, it is this very helplessness in the hands of the trained anesthetist for which we are so deeply grateful. We mortals are a sturdy class in many ways, but in the presence of pain we become frightened children, cowed by the thought of acute suffering and filled with an apprehension that might well aggravate our condition and affect the mind and spirit as well as the body. This is only natural and human. I believe that we women, with all the aches and pains to which the female flesh is heir, can bear pain better than the so-called stronger sex, but be that as it may, we all flinch from pain. I wonder if we all accept as true, stories of the old Spartans who were said to have endured the most severe tortures without betraying emotion of any kind, not even the slightest change in their facial expression. I do not, for one.

The world owes to you, the anesthetist, a debt it can never pay. Still more do we owe to those pioneers who discovered and perfected the blessed drugs you administer that allow us to sleep away our pain. Is it not appalling to think that less than a century ago, human beings were bound to the operating table with leather thongs so their struggles would not hamper the surgeon? An operation in those days was an ordeal that unnerved the doctor as well as his patient, and was it any wonder? No doubt the patient prayed that he would faint—perhaps even die—rather than endure the feel of the scalpel cutting through his bones. Today we face operations calmly and confidently, secure in the knowledge that a trained anesthetist will be at hand and we will have nothing to fear.

This afternoon while I was looking forward to this gathering here tonight, my mind traveled back over the history of anesthesia and I thought what

a long, long way we have come since the primitive, ineffective attempts to mitigate pain as practiced by the ancients. The story of anesthesia has always fascinated me. I thought of the blundering efforts of the Assyrians and Egyptians at subduing pain, or making a patient insensible to it—long before the Christian era—how they brewed herbs and soaked sponges in the mixture to place at the nostrils of the sick. Homer, Herodotus and many other writers of those days tell us that these agents were not without value, but how very crude they were compared with our modern methods. We know that Shakespeare frequently referred to draughts with the power to make the patient insensible to pain, but what a far cry were all these things from the surgical anesthesia of today.

I like to think of Priestley's experiments back in the late eighteenth century, and of Humphrey Davy, while still in his teens, working and studying to evolve a reliable anesthetic. They were probably laughed to scorn like Pasteur and other heroes of science. Then in 1844 we think of the obscure little dentist up in Connecticut, Horace Wells, who attracted attention by using nitrous oxide to have one of his own teeth extracted. Laughing gas was no laughing matter in those days. How crestfallen, how discouraged he must have been when, in spite of his conviction that he had made an important discovery, his demonstration at the Harvard Medical School proved a failure and his theories were discredited. We know that a Boston dentist a short time later began to advocate ether and in 1847 Sir James Simpson used chloroform for childbirth. Can't you imagine how pathetically eager the world was to believe that these methods were dependable and safe, yet how they must have hesitated to submit to them. It probably took a stout heart, in more ways than one.

Anesthesia would be a far greater curse than blessing to mankind, however, if it were not for the skill which our modern anesthetist displays. We know that not every woman, nor every nurse, is capable of being a good anesthetist. It requires so much knowledge, so much art. The lay people can only look up at you in humble appreciation for what you mean in their lives. Many of us are inclined to take you for granted, not thinking how much skill you bring to your profession, the tactful way you prepare us for anesthesia, the knowing way in which you recognize true respiration from false, or the action of the pulse, and your intimate knowledge of the complicated and formidable apparatus over which you preside when we place ourselves and our lives in your two hands.

That is why I said in the beginning that it is a real privilege and honor for me to be here with you this evening. I see among my audience the faces of many of my best friends, whose careers I am following with great interest and pride. I shall always remember this occasion as one of the most inspiring and enjoyable of my life and again I want to say how happy I am to be here with you tonight.

Before I relinquish the floor, I want to say again that I hope you will enjoy every minute of your stay in Memphis and that you will not only find this convention an inspiration and stimulation to you in your work, but that you will remember our city as a friendly and sociable place to which you will want to return as often as possible.

CONSERVATIVE SURGERY OF THE KIDNEY

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Kidney surgery as we practice it today was born in the latter part of the nineteenth century. The epoch-making successful deliberate nephrectomy by Gustave Simon in 1869 blazed the trail. Since the time of the first nephrectomy the various sciences have aided in the perfection of the methods of diagnosis with the result that diseases developing in an organ, so deeply placed and hidden away as the kidney, have been brought to view, affording the surgeon an opportunity of instituting conservative surgical relief early, before total destruction of this organ has taken place.

Today, the kidney surgeon is confronted with the ever-present dilemma —shall he sacrifice healthy kidney tissue by performing nephrectomy, which is a simple and sure method of relief, or shall he attempt to perform a reparative operation which, in some cases, will lead to chronic inflammatory disease, prolonged suffering on the part of the patient and ultimate nephrectomy? In some cases he can do nothing less nor better than nephrectomy. Wide experience, sound surgical judgment and painstaking evaluation of the individual case alone decides the surgeon's method of conduct. In the latter part of the nineteenth century pioneer surgeons favored conservatism because of inadequate methods of determining the condition of the opposite kidney. Renal function tests were unknown and exploration of the opposite kidney at the time of operation was not very satisfactory, therefore the earlier surgeons were more prone to conservatism. However as time went on, precision in diagnosis resulted from the invention of the cystoscope, the advent of renal function tests, and the use of the X-ray, and the exact condition of the opposite kidney could be so accurately ascertained that nephrectomy was fearlessly and often too hastily performed. Experience soon demonstrated that after removal of one kidney similar and other pathological conditions sometimes developed in the opposite kidney, which shortened the life of the patient. It was found that essential hematuria, hydronephrosis and other pathological lesions developed in the opposite kidney after removal of the affected organ. Therefore a wave of conservatism began to manifest itself among kidney surgeons who felt that the parenchyma of the kidney was so precious that one should not sacrifice even the smallest parcel of this organ so necessary for life. In more recent years the pendulum has again tended to swing toward radicalism and many men feel that it is better to have one healthy kidney than two which are bad. This is a bad dictum as it leads to excess—such as the sacrifice of many kidneys which could have been saved. The basis for this contention is the theory of renal counterbalance, in which it is claimed that the leaving behind of a poorly functioning portion of one kidney does away with the stimulus of compensa-

* Read at the annual meeting of the California Association of Nurse Anesthetists, held in San Francisco, Calif., March 1 and 2, 1938.

tory hypertrophy in the remaining kidney which always takes place after removal of its fellow. However, the majority of surgeons intervening on the kidney today strive for conservatism of renal tissue and day by day a greater number of resections of portions of the kidney, plastic repair of hydronephrosis, lithotomies, nephropexies and sympathectomies are being successfully performed.

In this communication I shall deal with the following conservative operations on the kidney, viz: resection (also termed partial or heminephrectomy), nephrolithotomy, pyelolithotomy, surgical correction of hydronephrosis, nephrostomy, nephropexy and sympathectomy.

Resection of the Kidney or Partial Nephrectomy. Renal resection is indicated when the pathological process is localized, benign and under favorable anatomical conditions in which the blood supply to the resected kidney can be preserved adequately. Resection of the kidney is more limited when the diseased condition occurs in an anatomically normal kidney; however, it presents greater possibilities when the diseased process is located in the anomalous double kidney and in the horseshoe kidney containing a separate blood supply. It is apparent that inflammatory and cystic pathological processes in the cortex such as abscess, carbuncle, localized pyonephrosis, solitary cyst, infarct, et cetera, are more difficult to resect when located in the central portion of the anatomically normal kidney without interfering with the integrity of the renal blood supply.

It is generally conceded that solid malignant growth of the kidney calls for nephrectomy, resection being reserved for benign tumors alone. I recall a woman in whom an encysted sarcoma of the upper pole was encountered. It was resected and she is now living and well nine years after operation. We resected the upper third of the kidney for localized interstitial nephritis in a patient presenting pain, hematuria and albuminaria which gave the characteristic pyelographic pressure defect of renal tumor. The man has had no further pain, hematuria nor albuminaria. It is generally conceded that tuberculosis also demands nephrectomy as the disease is usually progressive and ultimately involves and destroys the entire kidney. Papin reports an interesting case in which, after nephrectomy for tubercular kidney had been performed on one side, half of the remaining double kidney was successfully resected with clinical cure. Hess relates a similar experience. Hydrocalycosis, particularly when the sacculated calyx contains stones, is amendable to resection. We have successfully performed resection in a number of these cases. Stones lying in the sacculated and non-sacculated lower calyx associated with ulcerative pyelonephritis, form a veritable cesspool in the kidney and resection alone of the lower pole of the kidney at the time of lithotomy will prevent recurrence of stones and subsequent persistent chronic renal infection in these cases. Incontinence of urine in women due to aberrant opening of a bifid kidney can be relieved by heminephrectomy. Encapsulated infective cortical processes such as solitary abscess, carbuncle and renal fistula are amendable to resection, preferably with the cutting current. Large solitary cysts are easily resected but in order to prevent recurrence the cystic wall should be entirely removed. Aneurism of the renal artery or one of its branches is exceedingly rare. I have operated on two patients presenting aneurism of the renal artery and, although I con-

templated removal of the aneurism in these cases, this benign procedure was technically impossible. I am still on the lookout for a patient in whom I can resect the aneurysmal sac with preservation of the kidney.

Nephrolithotomy and Pyelolithotomy. Opinions vary widely as to conservation of the kidney in the surgical treatment of renal calculus. If the stones occur in both kidneys one is naturally forced to be more conservative and a number of urologists believe in leaving large bilateral kidney stones alone. In attacking bilateral stones, the stone in the healthier kidney is removed first. In attacking unilateral stones the surgical problem varies in the individual case. Is there associated nephrosis, infection, hydronephrosis or sclerotic contraction of the kidney? Pyelotomy is ideal for removing a single round stone situated in the pelvis. It has the low mortality of about 2 to 5 per cent compared to that of 15 to 25 per cent following nephrotomy. Because of its lower mortality many surgeons also apply pyelotomy to the removal of rather large staghorn calculi, and although this operation is a more benign procedure for the removal of this type of calculus it is more likely to be followed by recurrence. Some types of staghorn and tricornute calculi are best removed by a combination pyelotomy and nephrotomy incision. In large sized staghorn calculi nephrotomy offers the only method of complete removal of the stone. By this procedure faceted rami and other fragments are less likely to be left behind in the minor calices.

In performing nephrotomy and pyelotomy for stones, we insist on pyelotomy drainage. It relieves tension in the kidney due to back pressure that might take place, resulting from obstruction caused by edema in the lower portion of the pelvic wound and adjoining ureter, and provides for postoperative lavage in infected cases.

When we attack small stones situated in one of the calices, it is our custom to locate the stone with a needle, make a small stab incision in the parenchyma alongside of the needle through which the calculus is removed. A method described by the author has been found to be of aid in assuring the entire removal of larger stones in the calices *without* leaving small fragments behind. The stone is located with a needle; an incision is made in the pelvis through which one can later place the pyelotomy drain, the index finger is introduced into the pelvis and the stone is pushed out through the stab incision formerly made in the parenchyma. We insist on the correction of any pathological condition that might be present which is a factor in the production of stone. The ptotic kidney is suspended; obstructions consisting of valve and stricture formation of the uretero-pelvic outlet are corrected, resection of poorly draining infected sacculated lower calyx containing stones is carried out and denervation is made with the purpose of relieving pain and preventing recurrence.

Surgical Repair of Hydronephrosis. Hydronephrosis being an obstructive phenomenon, offers a double problem: (1) removal of the obstructing cause and (2) proper selection of the type of plastic repair, both of which are necessary in order to arrest hydronephrotic atrophy, which ultimately results in total destruction of the kidney. Early diagnosis enables one to correct hydronephrosis by operation before the development of advanced destructive back pressure, atrophic changes and before the occurrence of secondary infection.

Relief of the obstructing cause is the

greatest problem. Some cases of valvular obstruction of the uretero-pelvic junction can be relieved by application of the Heinecke-Mikulicz pyeloplasty-longitudinal incision with transverse closure. Certain strictures of the uretero-pelvic junction can be corrected by this procedure. However, there is a certain group of cases which require resection of the stricture and reimplantation of the ureter into the pelvis. This operation is known as ureteropyeloneostomy, a term coined by Bazy, who did much pioneer work in this field. In 1921 A. Von Lichtenberg offered his method of correction of these obstructions by lateral ureteropyeloanastamosis, a combination of the basic principle of gastro-enterostomy with ureteropyelostomy. Later Schwyzer and Foley aimed to correct these valve-like obstructions by making a Y-shaped incision extending from the pelvis into the ureter, forming a flap which was pulled down and sutured in such a way as to eliminate the puckering of the uretero-pelvic junction that sometimes resulted in failure of the operation. In a goodly number of cases the extrinsic pressure at the uretero-pelvic junction is caused by adherent bands and these can be relieved easily by incision. Recently we intervened on an infant, aged one year, in whom obstruction was due to these bands. Resection of the bands and plication of the pelvis relieved the patient of persistent pyuria that had existed since birth.

Then there are the obstructing aberrant vessels of the lower pole and these offer quite a problem. Shall we sacrifice the vessel by ligation and thereby produce atrophy of the corresponding portion of the kidney supplied by the vessel, or shall we attempt to preserve the vessel by making a plastic repair of the hydronephrotic sac? Recently Young proposed an ingenious method by which the sac is resected in such a way that the obstructing vessel is not sacrificed. Unfortunately this cannot always be accomplished. Fortunately most of the obstructing vessels are small and we do not hesitate to ligate these vessels. After all, ligation of these small arteries usually results in atrophy of less than one-sixth of the secreting tissue making up the kidney mass and if the obstruction is not relieved, total destruction of this organ will result. Papin reports an interesting case of hydronephrosis which he relieved by section of the uterine artery.

Finally, of course, the selection of the proper type of plastic operation which is necessary to restore the kidney to its normal anatomical structure varies with the numerous pathological conditions encountered and must be met by the ingenuity of the surgeon. When the sac is not too large we employ plication as described by Israel and Kelly. It has given us results in a goodly number of patients. When the sac is larger we employ resection with the object of establishing funnel-shaped drainage in the most dependent portion of the sac. After relief of the obstructing cause and plastic repair of the hydronephrotic sac we insist upon nephropexy which assures maintenance of the kidney in its true anatomical position, assuring success of the operation. In painful hydronephrosis of all types we always perform renal sympathectomy.

Nephrostomy. Nephrostomy is a conservative intervention on the kidney which, unfortunately, is not being sufficiently employed at the present time. It is used for drainage prior to two-stage nephrectomy, prior to derivation of the urine by uretero-cutaneous and intestinal anastamosis but less com-

monly prior to conservative operations on the kidney such as plastic repair of the pelvis and removal of obstructive lesions of the uretero-pelvic junction, ureter and lower urinary tract. When we are dealing with calculous anuria resulting from complete obstruction occurring in the solitary kidney which cannot be relieved by the ureteral catheter, we do not hesitate to perform nephrostomy. In these solitary kidney cases it is our only chance of saving the patient's life; however, in many patients presenting an unrelievable obstruction in one kidney with a normal opposite kidney we fail to recognize that it is often our only chance of saving the kidney. Many patients with obstructive lesions in whom kidney function is temporarily arrested and on whom nephrectomy is being performed, could have their kidneys saved by early nephrostomy. Nephrostomy is occasionally the only measure that we have to establish a diagnosis.

Nephropexy. For the past twenty years we have emphasized the beneficient results of nephropexy performed in properly indicated cases and it is gratifying to observe that it now justly occupies its proper place among the conservative operations on the kidney. Its universal recognition by sane-thinking modern urologists is due to the uniform good results obtained when properly performed on carefully selected cases. Nephropexy is indicated in the following groups of patients: (1) patients suffering from pain, gastro-intestinal symptoms and nervous phenomena caused by ptosis and torsion of the kidney, (2) patients presenting movable kidney accompanied by obstructive phenomena in whom symptoms are not relieved by dilatation of the ureter nor abdominal support in the form of belts, (3) patients presenting third degree ptosis in whom the kidney is anchored in an unusually low position because of perinephritis, (4) patients in whom obesity or extensive abdominal scars prevent the supportive action of belts, (5) for the relief of patients presenting chronic infected hydronephrosis secondary to ptosis in which faulty drainage favoring chronic infection is due to uncorrected stasis, (6) for surgical suspension of ptotic kidneys on which other conservative operations are performed such as partial resection, nephrolithotomy, pyelotomy, sympathectomy, division of horse-shoe kidney, et cetera.

The author's technique which was described in 1933 has given us the greatest percentage of cure and has overcome the uncertain elements of the other operations formerly employed. It consists of suspension of the kidney by one set of triangular catgut sutures placed on the anterior and two sets of similar sutures placed on the posterior convex surfaces of the kidney. By regulating the level of placement of these sutures the kidney can be fixed at any height desired. In this operation the kidney is entirely freed from surrounding structures, assuring adequate exposure of the upper ureter and renal pedicle so that a damage-producing kink can be properly freed from adherent bands, aberrant vessels, et cetera and the kidney easily denervated. This operation assures lasting fixation of the kidney in the normal anatomical position and has given us satisfactory results in over 150 patients.

Renal Sympathectomy. One of the latest conservative interventions on the kidney which has been introduced is denervation, by which the nerve supply of the kidney is severed. This operation was first performed by Papin in 1920 and was the outgrowth of experiments performed with Ambard in working out the concentration maxima

renal function tests on dogs. It was observed that severance of the nerve plexis of the kidney had no appreciable untoward effect on the functioning power of this organ. By making a number of follow-up pyeloscopy and pyelography studies the fact has been established that renal sympathectomy is a safe procedure and does not interfere with kidney function nor adequate drainage of the pelvis. Denervation of the kidney is indicated in painful nephroptosis, painful hyperdynamic mobility of the renal pelvis, nephralgia, sympathecticotonia, interstitial perinephritis and in certain cases of painful nephritis, hemorrhagic nephritis, acute hypertension, anuria and kidney stone. By proper exposure the nerve plexis is easily located, the filaments of which are found to go along the superior and anterior wall of the renal artery and its largest branches, at which point they are incised. Although technically it is quite a simple procedure, great care must be exercised *in not* injuring the renal vessels, particularly the renal vein, which is quite friable, particularly when involved by sclerotic changes. Since 1925 we have performed renal sympathectomy for painful movable kidney, painful hydronephrosis, interstitial perinephritis, acute hypertension, painful nephritis, nephralgia and nephrolithiasis (with the object of relieving pain and preventing recurrence of stone) on over 100 patients with gratifying results.

I have dealt with the present-day status of conservative renal surgery and have related the various types of reparative operations by virtue of which the kidney can be relieved of diseased processes and restored to more or less normal function. Naturally experiences forced upon us in intervening on the solitary kidney have widened the field of conservative surgery and we have learned that in dealing with a diseased kidney nephrectomy does not necessarily have to be performed because the opposite kidney is normal. In recent years greater conquests have been gained and already a portion of the kidney has been successfully resected for tuberculosis and even cancer. Improved technique and greater experience obtained by kidney surgeons hold much for the future. In borderline cases the decision between a conservative operation and nephrectomy requires keen reasoning based on long experience, and although conservatism taxes the surgeon's ingenuity, radicalism calls on his finer judgment to decide in favor of a justifiable nephrectomy necessary for clinical relief, all of which aids in the preservation of kidney tissue, the relief of human suffering and the prolongation of life.

ANESTHESIA SHOCK

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In this paper there will be presented a discussion of surgical shock with particular reference to the role of anesthesia as a causative factor.

Bickham[1] defines shock as a reflex depression of the vital functions due to bodily injury, traumatic or operative; due to prolonged operation, or error of

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anesthetization; due to psychic influence, especially strong emotions of a distressing nature, or due to any other cause resulting in the exhaustion or inhibition of the vasomotor mechanism.

Wright[2] states that shock is a condition in which the motor parts of the reflex arc are paralyzed to a greater or less degree, together with a profound disturbance of the circulation, subnormal temperature, and usually frequent shallow breathing; it may be seen typically following severe injuries.

Orr[3] outlines shock as a generalized bodily state which occurs after severe injury and which is characterized by a low or falling arterial pressure, a rapid, thready pulse and diminished blood volume.

According to *Crile*[4] shock is a state of exhaustion which has been developed rapidly by psychic, traumatic, toxic or thermal stimuli. He states that whatever the cause the basic phenomena are the same—diminished reserve alkalinity, increased H-ion concentration of the blood, and intracellular changes in the brain, liver and adrenals.

Bazett[5] defines shock as a condition of circulatory failure induced by trauma, in which the blood volume is inadequate and to the production of which many factors may contribute.

Primary shock is that which is attendant immediately on the receipt of an injury. A slight injury in an excitable individual often induces primary shock. The degree of the shock is fairly constant with the severity of the injury.

Secondary shock is that which occurs some hours after injury. In these cases the volume of blood in active circulation is reduced. The hemoglobin per cent and the red cell count may be above normal. It has been found that individuals in secondary shock are susceptible to ether, extremely so to chloroform, but are not adversely affected by nitrous oxide and oxygen.

Postoperative shock is secondary shock complicated by all the insults associated with operation — anesthesia, hemorrhage and surgical trauma. Although the symptoms of shock may not be apparent for several hours following the operation, there is usually a history of some crisis during the surgical attack. Here anesthesia is an important factor contributing to shock and hemorrhage. It has been demonstrated experimentally that in the etherized dog the amount of blood that can be lost without circulatory failure is much less than in the unanesthetized animal.[6]

Knoefel[7] states the secondary or delayed shock that may be produced by prolonged anesthesia is due to a concentration and reduction in volume of the circulating blood resulting from general stimulation of the sympathetic system including the outpouring of adrenin.

The Nature of Shock.

Bazett [8] states that shock is circulatory failure in which blood volume is diminished, arterial pressure lowered, and cardiac output reduced. This change in blood volume may be increased by hemorrhage or sweating, but it can be the result of displacement of fluids within the body. Vasodilatation may cause a loss of circulating fluid because large quantities of blood are trapped in the expanded vascular beds. In postoperative shock complicated by anesthesia there is a differential loss of blood plasma, not the actual loss which one sees in hemorrhage. The small vessels of the peripheral vascular system are not dilated. On the contrary, the vessels in the skin, including both capillaries and venules, are constricted. In other areas of the body, however,

the capillaries are enormously dilated, causing stagnation of large volumes of blood which are practically taken out of circulation. When such a condition arises, shock is exaggerated by anesthesia, by lack of oxygen, and by depressed respiration or excessive ventilation with loss of carbon dioxide, causing damage to the capilllary wall, and thus resulting in further loss of fluid into the tissues. Excessive ventilation with its loss of carbon dioxide interferes with vasomotor control and also produces long periods of cessation of respiration with consequent loss of oxygen.

Many theories have been advanced and considerable research has been done to advance a single causative agent. It is more likely that shock is due to a combination of many factors. Shock appears to be induced by some effect of damaged tissues, nervous or chemical in origin, or a combination of these two. Hemorrhage can be a contributory factor only, unless blood loss has been so great as to cause circulatory failure.

Yandell Henderson[9] has advanced the theory that acapnia is the cause of surgical shock. He has shown that hyperventilation can cause circulatory failure in animals. A certain type of anesthesia, that is, light anesthesia with hyperexcitability and with rapid, shallow respirations, may produce shock. This example of faulty anesthesia brings about shock because of the loss of carbon dioxide and oxygen which hyperventilation produces.

The neurogenic theory of shock was first advanced by *Melzer*. It explains one type of primary shock, sudden in onset, resulting in syncope or fainting. Here is the clinical picture of shock with unconsciousness. Psychic shock, the effect on the brain of impulses from the centers of consciousness, may be in itself fatal apart from any trauma or anesthesia.

The most popular theory of shock at present is that of traumatic toxemia. *Bayliss* and *Canon*[10] found experimental evidence that certain toxic substances, particularly histamine, are generated in injured tissues and that when large quantities of these toxins are absorbed into the general circulation, the picture of secondary shock is produced. Other investigators have recently held this theory in doubt.

Symptoms and Signs of Shock

In shock the symptom-complex expresses itself in the following characteristic signs and symptoms: Low or falling arterial pressure, low venous pressure, rapid, thready pulse with diminished blood volume, increased peripheral red cell count and hemoglobin, leucocytosis, lowered metabolism, cold moist skin, pallor or cyanosis, thirst, rapid respirations, vomiting, restlessness and anxiety progressing to apathy and coma. Age, sex and race have some predisposing influence. The aged are more susceptible, due to changes in the circulatory apparatus. They have less compensatory reserve. Infants and children stand shock poorly due to their more sensitive nervous mechanism. After puberty the female has less resistance to shock than the male, excepting during pregnancy and the menopause, when her resistance increases.[11] The effect of shock is more profound in the negro race.

Can anesthesia produce primary shock? Occasionally one encounters the hypersensitive, emotional, apprehensive individual who is terrorized at the approach of anesthesia. The confusion which attends the hastily and poorly arranged operation; the unnecessary noises and tactless conversations of operating room attendants; the obvious array of instruments and appliances; the fear that operation may be

started before the patient is adequately anesthetized;—all of these may produce shock or a susceptibility to it. The quiet, isolated anesthetizing room has much to recommend it.

Primary shock of course may be produced by overdosage of anesthesia. Anesthesia, however, is more often an important causative factor of secondary shock or postoperative shock.

Kemp[12] details a number of important conditions related to anesthesia and operation which in time produce shock. He calls them "time shock factors." They are: the lack of preoperative preparation; the shock-producing nature of the operation; a shock-producing method of operating; the dehydration incidental to operation And more intimately related to anesthesia itself are fear; a rapid or stormy induction; the use of an unsuitable anesthetic agent; the maintenance of an unsuitable plane of anesthesia; the failure to offset dehydration; the failure to maintain an open air way and to sustain blood oxygenation; an irrational or handicapping posture on the operating table; and undue cooling of the patient.

Pressure on the carotid sinus either by operative manipulations or by the thumbs of the anesthetist is said to cause respiratory depression with resulting anoxemia. *Downs*[13] believes that some unexplained causes of death under nitrous oxide-oxygen anesthesia were due to mechanical stimulation of the carotid sinus.

The preventive treatment of shock, engaging the cooperative efforts of anesthetist, internist and surgeon has been productive of very gratifying results. Certainly in selective operations every means is exhausted to bring the patient to anesthesia and operation in the best mental and physical condition. The psychic element may and should be eliminated by the proper selection of hypnotic, narcotic and analgesic agents. The type of anesthetic agent should fit the individual patient and should be adequate for the particular needs of the surgeon. The anesthetist should be forewarned (by the surgeon) of special shock-producing manipulations and the plane of anesthesia adapted to meet the contingency. Muscular rigidity, when due to imperfect blocking of nervous impulses, is a danger signal of impending shock. The prolonged use of unnatural positions on the operating table should be discouraged. Hyperventilation and excessive loss of carbon dioxide by too light an anesthesia should be avoided.

In the management of shock the time element is as important as it is in hemorrhage. Blood volume should be restored promptly by the infusion of fluids. Blood transfusion is most effective. Glucose and saline in hypertonic solutions are helpful in the emergency. Isotonic or normal saline solution is too rapidly diffused into the tissues. Its effect is temporary. Gum acacia in solution restores blood volume promptly and its benefit is prolonged. Its use has been objected to on account of its toxicity. Recent preparations are free of impurities and may be used with safety. Saline and glucose should be injected slowly into the vein to prevent cardiac embarrassment. A vein of the leg is chosen preferably. The large venous reservoir in the inferior vena caval system acts as a buffer and consequent cardiac distention is avoided. An additional advantage of using veins of the leg is that during actual operation these parts are more accessible, interfering less with the surgeon and the anesthetist. External heat is an important aid, provided it is not carried to the point of dehydration. A moderate Trendelenberg position is valuable in combating cerebral anemia.

In anesthetic and surgical shock, adrenalin is contraindicated because it

tends to produce a more marked decrease in the capillary circulation. When the heart is failing it may be used with advantage to stimulate, temporarily, coronary circulation. Coramine has the greatest value. It is much more effective than caffein-sodium benzoate, and 1 to 5 cc. may be given intravenously if necessary. It has the advantage of frequent repetition.

Every precaution should be exercised to prevent shock. With its onset every therapeutic measure should be instituted to prevent its advance to the critical stage of collapse.

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CYCLOPROPANE ANESTHESIA

SISTER MARY BENIGNUS LEAHY, R.S.M., R.N., B.S.*

Mercy Hospital, Hamilton, Ohio

Cyclopropane was first developed by Freund in 1882, but it was not until 1929, when the laboratory report of Lucas and Henderson appeared, that its anesthetic properties were suggested.

Cyclopropane is a saturated hydrocarbon gas prepared by the reduction of an alcoholic solution of trimethylene bromide in the presence of metallic zinc. Its formula is C_3H_6. The gas liquefies at seventy-five pounds pressure at a temperature of 70 degrees Fahrenheit. It is about one and one-half times as heavy as air, having a density of 1.46 and a molecular weight of 42.05. It is inflammable when mixed with air in percentages of 3.0 to 8.5 or with oxygen in concentrations of 2.5 to 50.0 per cent.

Cyclopropane differs to a certain extent in action and effect from other anesthetic agents such as ethylene or nitrous oxide. It is a very simple and easy anesthetic to give, providing the danger

* Read at the annual meeting of the Ohio Nurse Anesthetists' Association, held in Columbus, Ohio, April 6 and 7, 1938.

of over-dosage is guarded against and its progress checked. There are recognizable stages, although they may be short, and at times may be described as overlapping each other. To my mind the individual anesthetist forms and retains a mental picture, as it were, of the signs and stages, depending upon the flow of cyclopropane. I have accustomed myself to follow the induction period by the response of the lid reflex; the second stage—light or moderate anesthesia, by slight oscillation of the pupils; and for surgical anesthesia, a centrally fixed pupil and a smooth, soft, even respiration. In the fourth stage, a shallow, very slow respiration develops which indicates too deep anesthesia. At this point it is necessary to add more oxygen to restore smooth, rhythmical respiration. When there is a doubt as to the true character of respiration, remember that the rate and volume as indicated in the rebreathing bag is reliable. There is no doubt that a too high concentration of cyclopropane will cause a definite laryngospasm or stridor.

In working with a surgeon accustomed to operating under spinal anesthesia, I have encountered both the larynsgospasm and the stridor and almost complete suppression of respiration. The above are rather difficult to control because if the mixture is weakened by increasing the oxygen to the point where the spasm or stridor disappears and respiration is restored to normal, embarrassment may be caused by bringing the patient up to too light a level of anesthesia at a very critical point in the operation. From experience I have found the following method very helpful: Shut off the mixture in the bag and change to nitrous oxide anesthesia with a fair margin of oxygen. Since nitrous oxide is a respiratory stimulant it aids definitely in establishing a smooth, easy respiration. After a few minutes return to the mixture of cyclopropane and increase the oxygen 50 to 100 cc. per minute.

Technique of Administration

The method usually employed in giving cyclopropane in this institution is to fill the bag about two-thirds full with oxygen. The mask is then placed on the patient's face, the soda lime absorber turned on to one-half, the oxygen is set to flow at 250 cc. per minute and the cyclopropane from 600 to 700 cc. per minute for from two to three minutes, at which time the cyclopropane is turned off and the patient is observed to see if the plane of anesthesia is deep enough. Just before the surgeon makes the incision the cyclopropane is again set at 700 cc. for 30 seconds, and then it is again turned off. At this time the airway is inserted. About every eight or ten minutes during the course of the operation 200 to 300 cc. of cyclopropane are added to the mixture. This makes up for any loss through the absorption by the tissues, diffusion through the bag or unavoidable leaks.

Cyclopropane and a basal anesthetic of avertin (usually 80 milligrams per kilogram) make an effective combination for use in major surgery. It is essential, however, that the anesthetist be experienced in the individual use of these drugs before attempting to use them in combination, the usual physical signs being somewhat masked, due to the depressing effect of both drugs upon the vital centers. Here, I think, more than at any other time, cooperation from the surgeon is necessary in regard to rigidity and light anesthesia. The blood pressure is an excellent guide as to the depth of anesthesia, taking into consideration the fact that avertin lowers the blood pressure about ten points, while cyclopropane raises it about twenty. On the whole,

this combination gives excellent relaxation and recovery is usually pleasant and uneventful. When avertin is used, hyperventilation with carbon dioxide every three hours for the first 24 hours is indicated.

Recovery

In cases in which the oxygen concentration was very high, upon removal of the mask some patients develop a grayish-blue cyanosis, a marked fall in blood pressure and a slow pulse. This condition is suggestive of a severe vasomotor depression, precipitated by the sudden withdrawal of an atmosphere humid and warm, and rich in oxygen. This condition may last several hours but may be relieved by the administration of carbon dioxide, and is prevented by reducing the oxygen concentration towards the close of the cyclopropane anesthesia.

Most patients recover consciousness within six to eight minutes and the occasional one enters a stage of delirium, several minutes prior to the recovery. After consciousness has returned it is quite common to note the patients passing into a slumber from which they can be readily aroused. On the whole, recovery depends upon the length and depth of the anesthesia, and upon the amount of premedication given.

Premedication:

We use from ⅛ to ¼ grain of morphine, depending upon the weight of the patient; also 1/150 grain of atropine. When avertin is given the morphine is omitted and only the atropine used. As a rule no premedication is used for the emergency cases, such as reduction of fracture and the opening of abscess, with resultant advantages as follows: relaxation is satisfactory; recovery is more prompt; throat reflexes return more rapidly and should there be emesis of undigested food there is less danger of aspiration of particles into the respiratory tract.

With moderate cyclopropane anesthesia the rate of the pulse usually neither rises nor falls. Should the percentage of cyclopropane be too great, the pulse volume becomes less and the rate may be irregular. All through cyclopropane anesthesia there is a definite rise in both systolic and diastolic blood pressure. About fifteen minutes after anesthesia is discontinued it returns to normal.

Explosion Hazard

Cyclopropane is inflammable and capable of being exploded when mixed with certain proportions of air or oxygen. These hazards are avoided to a large extent, however, by the fact that very little gas escapes into the operating room when the proper completely closed carbon dioxide absorption technique is used in its administration. The same precautions must be observed with the use of the cautery, electric knife or diathermy as with other explosive anesthetic mixtures.

In conclusion, cyclopropane affects the patient's metabolism very little, although there is nausea in a fair proportion of cases. There is no evidence of damage to the liver, the kidneys or the respiratory tract, nor is circulation depressed. The surgeons I have worked with have not noticed any unusual bleeding and there is no loss of body fluids. Induction is always pleasant and apparently easy for the patient, while recovery is uneventful as a rule. The nursing care is very much less than with other anesthetic agents. Cyclopropane anesthesia may be used with satisfaction to the surgeon and the anesthetist in surgical procedures of all types, including operations on the eyes. Cyclopropane is very valuable as an anesthetic agent and has a wide field of usefulness.

COMING MEETINGS

NATIONAL MEETING—1938

The sixth annual meeting of the National Association of Nurse Anesthetists will be held in Dallas, Texas, September 27th to 30th, inclusive.

Convention headquarters—Fair Park Auditorium, which is located about one-half mile from the hotels. There will be bus transportation to and from the Auditorium.

Hotel headquarters—Hilton Hotel, 1933 Main Street. *Hotel reservations should be made early.*

Committees:

Program

Dorothy M. Hoadley, Chairman, Methodist Hospital, Fort Worth, Texas.
Pearl H. Young, Medical and Surgical Clinic, Dallas, Texas.
Minnie V. Haas, St. Joseph's Hospital, Fort Worth, Texas.
Beulah Strange, Baylor University Hospital, Dallas, Texas.
Osa Beck, San Angelo Medical & Surgical Clinic, San Angelo, Texas.

Local Arrangements

Velma G. Thompson, Chairman, Baylor University Hospital, Dallas, Texas.
Madge Teague, Parkland Hospital, Dallas, Texas.
Lucia Riek, St. Paul's Hospital, Dallas, Texas.
Mrs. Thelma McBride, Methodist Hospital, Dallas, Texas.

Hospitality

Sallie F. Knight, Chairman, Baylor University Hospital, Dallas, Texas.
Celeste Ross, Rushing Clinic, Dallas, Texas.
Martha DeLay, Paris Sanitarium, Paris, Texas.
Ora Lee Mercer, 206 Medical Arts Bldg., Dallas, Texas.
Gertrude Motes Baker, Shannon Hospital, San Angelo, Texas.
Beatrice Mills, St. Paul's Hospital, Dallas, Texas.

Program in full will be published in the August issue.

INDIANA

The Indiana Association annual meeting will be held in Indianapolis May 11th. A dinner will be held preceding the evening session, at which Gertrude Fife will talk on "Anesthesia in Cardiac Surgery."

For further information in regard to arrangements write Agnes M. Lange. Executive Secretary, 622 Wayne Pharmacal Bldg., Fort Wayne, Ind.; or Mrs. Margaret P. Church, President, 1016 Garden Street, Fort Wayne, Ind.

MINNESOTA

PROGRAM — ANNUAL MEETING
Nicollet Hotel, Minneapolis
May 19 and 20, 1938
In conjunction with the Minnesota Hospital Association

Thursday morning, May 19 — Registration

Hazel J. Peterson
President

Friday, May 20

9:00 A.M. GENERAL SESSION
"Progress in Anesthesia and Its Effects on Hospital Administration"
Catherine Cameron, St. Joseph's Hospital, Milwaukee

12:30 P.M. Allied Organizations' Luncheon

2:00 P.M. Presiding—Hazel J. Peterson, President
Business Meeting and Election of Officers (members only)

2:45 P.M. GENERAL SESSION
Address of Welcome
Sister Patricia, O.S.B.
President, Minnesota Hospital Association

3:00 P.M. "Early Recognition of Shock by the Anesthetist and Its Treatment"
Catherine Cameron

3:20 P.M. "The Effects of Anesthesia on the Heart"
Charles J. Betlach, M.D.,
Mayo Clinic, Rochester, Minn.

3:40 P.M. "Special Variations in Gas Anesthesia"
Ralph T. Knight, M.D.,
Minneapolis General and University of Minnesota Hospitals

4:10 P.M. General Discussion

6:30 P.M. Banquet

Saturday morning, May 21 — Anesthesia Clinics
University of Minnesota Hospital
Minneapolis General Hospital

For further information write Miss L. Rose Littel, Secretary, Minneapolis General Hospital, Minneapolis, Minn.

NEW YORK

The fifth annual meeting of the New York Association of Nurse Anesthetists will be held May 19 and 20, 1938, at the Statler Hotel, Buffalo.

For further information write Miss Hazel Blanchard, Secretary-Treasurer, 1910 Seventh Avenue, Troy, N. Y.

WISCONSIN

At the May meeting of the Wisconsin Association, which will be held at St. Mary's Hospital, Milwaukee, a committee will be appointed to take care of the arrangement of the program and other details in connection with the second annual State meeting, which will be held in November.

STATE ACTIVITIES

ALABAMA

The annual meeting of the Alabama Association was held on April 7 and 8, 1938, at the Thomas Jefferson Hotel, Birmingham, Ala., in conjunction with the Southern Hospital Conference. The following took part in the program:

Commissioner J. W. Morgan

Miss Clyde Faust, President Alabama Association of Nurse Anesthetists, Colbert County Hospital, Sheffield, Ala.

E. B. Robinson, M.D., Director Department of Anesthesia, T. C. I. Hospital, Fairfield, Ala.

"Anesthesia and Cyclopropane"

Discussion conducted by Hugh Linder, M.D., Birmingham

B. M. Carraway, M.D., Medical Director, Department of Anesthesia, Norwood Hospital.

"Sodium Pentothal"

Discussion conducted by H. E. Simon, M.D., F.A.S.C., Birmingham, and J. M. Donald, M.D., F.A.C.S., Birmingham

The following clinics were held on Friday, April 8th:

Hillman Hospital — Cyclopropane
Miss Ann Trabor, Anesthetist

Norwood Hospital — Sodium Pentothal
Miss Anne Beddow and Miss Irma McKenzie

Seventy-five attended the banquet held Thursday evening, April 7, at the Thomas Jefferson Hotel, Dr. D. F. Talley presiding. Dr. A. J. Hockett, Superintendent of Touro Infirmary, New Orleans, and President of the Louisiana State Hospital Association, spoke on "Anesthesia as it Relates to Hospital Administration"; and Dr. S. L. Ledbetter on "Anesthesia from the Viewpoint of the Surgeon." Three entertaining features added to the enjoyment of the guests at the banquet.

The group felt that the meeting was very successful; the papers and discussions were excellent and a great deal of interest was manifested. It was voted that the 1939 meeting be held in conjunction with the Alabama Hospital Association.

The following officers were elected for the year 1938-1939:

President	Miss Mary Blande Parks Druid City Hospital, Tuscaloosa
First Vice-President	Mrs. Paul O'Dell Birmingham, Ala.
Second Vice-President	Miss Ola Burnes Forrest General Hospital, Gadsden
Secretary-Treasurer	Miss Irene O'Curran St. Vincent's Hospital, Birmingham

CALIFORNIA

Forty members of the California Nurse Anesthetists' Association were present and three anesthetists from neighboring states, at the annual meeting held in the Green Room at the Fairmont Hotel, San Francisco, Wednesday, March 2, 1938, in conjunction with the Association of Western Hospitals.

At the luncheon Robert E. Neff, M.D., President of the American Hospital Association, was introduced by Dr. MacEachern. Dr. Neff extended greetings from the Association of Western Hospitals and gave an enthusiastic welcome to the nurse anesthetists at this, their first meeting with the Association of Western Hospitals. He congratulated the nurse anesthetists on the splendid work being done by their Association, and stressed the fact that there is much to be accomplished in this field. He also extended a cordial invitation to all the members of the California Nurse Anesthetists' Association to attend the convention of the American Hospital Association to be held in Dallas, Texas.

Malcolm T. MacEachern, M.D., Associate Director of the American College of Surgeons, was introduced by Miss Myra B. Quarles. Dr. MacEachern discussed "Important Factors in the Administration of Anesthesia."

The business session followed the luncheon, and the following officers were elected:

President	Mrs. Mary J. R. Stevenson Franklin Hospital, San Francisco
Vice-President	Mrs. Katherine H. Graham San Francisco Hospital, San Francisco
Secretary-Treasurer	Mrs. Gay Morgan 807 — 39th Avenue, San Francisco

At the cordial invitation of the Association of Western Hospitals the California Association of Nurse Anesthetists has joined as a permanent unit the Association of Western Hospitals.

At the business meeting it was voted unanimously to assess each member one dollar per year to cover the expenses of the delegate attending the convention of the National Association of Nurse Anesthetists.

The California Association wishes to report to the National Association that notable progress is being made by the California Association and members are manifesting much interest and enthusiasm in the activities and future program of the organization.

OHIO

Thirty-two members were present at the fifth annual meeting of the Ohio Nurse Anesthetists held in Columbus on April 6 and 7, 1938. The following took part in the program:

A. E. Brant, M.D., F.A.C.S., Chief Surgeon, Youngstown City Hospital, Youngstown, Ohio
"Cooperative Anesthesia"

F. W. McNamara, M.D., F.A.C.S., Chief of Staff, St. Elizabeth Hospital, Youngstown, Ohio
"Anesthesia Shock"

R. A. Ramsey, M.D., The Crotti Clinic, Columbus
"Some Impressions on Anesthesia from the Viewpoint of an Internist"

A. J. Skeel, M.D., F.A.C.S., President, Ohio Obstetrical Association
(joint meeting with the Record Librarians)

Ann Terry, Chief Anesthetist, Charity Hospital, Cleveland, Ohio
"Dangers and Difficulties in Anesthesia"
Discussion conducted by Kay Sheehan, Charity Hospital, Cleveland

Sister M. Benignus Leahy, Chief Anesthetist, Mercy Hospital, Hamilton, Ohio
"Cyclopropane Anesthesia"

At the business session the following officers were elected:

President	Alice Barth Youngstown Hospital, N.S. Unit, Youngstown, Ohio
First Vice-President	Mrs. Dessa C. Hale Hale Hospital, Wilmington, O.
Second Vice-President	Myrn Momeyer St. Luke's Hospital, Cleveland, O.
Secretary-Treasurer	Mrs. Ann Nightengale Dickerson 1601 Mars Avenue, Lakewood, O.
Trustees, 3-year	Gertrude L. Fife University Hospitals, Cleveland, O. Kay Sheehan Charity Hospital, Cleveland, O.

Gertrude Fife and Ann Nightengale Dickerson were appointed by the Board of Trustees as a special committee to summarize the progress made by the Ohio organization and submit recommendations to the Board for future development of the Association.

Miss Alice Barth was appointed as a delegate to the National Association of Nurse Anesthetists' meeting in Dallas in September.

OKLAHOMA

A meeting of the Oklahoma Anesthetists' Association was held at Kingkade Hotel, Oklahoma City, March 16, 1938.

Since the organization meeting held August 18, 1936, the Association has become affiliated with the National Association of Nurse Anesthetists, and there has been an increase in membership and greater interest in State Association activities.

Mrs. Eula McNiel Parks gave a report of the National meeting held in Atlantic City last September. J. H. Johnson, M.D., Chief Surgeon, Wesley Hospital, Oklahoma City, spoke on "The Progress of the Nurse Anesthetists." A round table discussion preceded the business meeting, at which the following officers were elected:

President	Mrs. Pierina G. Egan Wewoka Hospital, Wewoka
First Vice-President	Audra I. Ball U. S. Indian Service, Pawnee
Second Vice-President	Hellon Gandy Wesley Hospital, Oklahoma City
Treasurer	Mrs. Eula McNiel Parks McAlister, Okla.
Secretary	Mrs. Julia D. Loftus Community Hospital, Elk City
Board of Trustees:	
One year	Mrs. Pierina G. Egan Audra I. Ball Hellon Gandy
Two years	Dixie L. Diefenderfer
Three years	Beatrice M. Pitt

OREGON

The Oregon Association of Nurse Anesthetists is now in its third year of activity. Meetings are held monthly at the various hospitals and are well attended. The membership totals fifty-one active and two associate.

Through the efforts of an active Program Committee many interesting lectures by prominent surgeons and physicians have been given during the winter months, and at the present time Dr. Aubrey M. Davis, Professor of Cardiology of the University of Oregon Medical School, is giving a series of lectures on the heart. These lectures are being mimeographed and sent to all members of the Oregon Association and will also appear in subsequent issues of the National Bulletin.

Plans are already under way for next year's social and educational activities.

PENNSYLVANIA

PROGRAM — ANNUAL MEETING

William Penn Hotel, Pittsburgh, Penna.

April 27 and 28, 1938

in conjunction with the Pennsylvania Hospital Association

April 27

Presiding: Mary Roenbaugh
Western Pennsylvania Hospital, Pittsburgh

Address of Welcome
Rose G. Donovan, President
Mt. Sinai Hospital, Philadelphia

Greetings
Mary B. Miller
President, Pennsylvania Hospital Association

Miriam G. Shupp
President, National Association of Nurse Anesthetists

"Cyclopropane"
Philip A. Faix, M.D.
Chief Anesthetist, Mercy Hospital, Pittsburgh

"The Nurse Anesthetist"
Hilda R. Salomon
Chief Anesthetist, Jewish Hospital, Philadelphia

"Intravenous Anesthesia" (with slides)
Frances Wolak
Anesthetist, St. Francis Hospital, Pittsburgh, Pa.

"Uses of Tubed Flap in Reconstructive Surgery" (with motion pictures)
J. A. Cowan, M.D.
Plastic Surgeon, Allegheny General Hospital, Pittsburgh

April 28

Clinic — Allegheny General Hospital
O. C. Gaub, M.D.
Surgeon-in-Chief, Allegheny General Hospital, Pittsburgh

Luncheon—Allegheny General Hospital
Presiding—Gertrude Render
Homestead Hospital, Homestead, Pa.

Address
C. W. Skinner, M.D.
Meadville, Pa.

"Hazards of Obstetrical Anesthesia"
W. H. Power, M.D.
Obstetrician, Elizabeth Steel Magee Hospital, Pittsburgh

"Endotracheal Anesthesia"
George J. Thomas, M.D.
Instructor of Anesthesia, University of Pittsburgh Medical School; Director of Anesthesia, St. Francis Eye and Ear and Children's Hospital, Pittsburgh

"Summary of Anesthesia in Otolaryngology"
L. O. Meckel, M.D.
Attending Otologist and Laryngologist
Allegheny General Hospital, Pittsburgh, Pa.

"General Anesthesia for Dental Surgery"
W. Harry Archer, D.D.S.

"What the Nurse Anesthetist Should Know about Spinal Anesthesia"
L. Kraeer Ferguson, M.D.
Associate in Surgery, University of Pennsylvania
Surgeon, Philadelphia General Hospital
and
Nancy Ingram
Anesthetist, Philadelphia General Hospital, Philadelphia

Thursday evening, April 28

Banquet and Dance
Sponsored by the Hospital Association of Pennsylvania

TENNESSEE

The annual meeting of the Tennessee Nurse Anesthetists' Association was held at the Peabody Hotel, Memphis, Tenn., on Thursday, February 17, 1938, in conjunction with the Mid-South Post Graduate Nurse Anesthetists' Assembly.

The election of officers was postponed because voting members were present from two counties only, which was not sufficient representation to conduct an election. The present officers therefore will serve until such time as a quorum can be present.

Treasurer's Report:

Year 1936:		
Miscellaneous Expenditures	$ 23.00	
Dues transferred to National Association	22.50	
Dues transferred to Mississippi Association	17.50	
Year 1937:		
Miscellaneous Expenditures	87.00	
Dues transferred to National Association	83.00	
Balance in Bank January 3, 1938		$277.08

Officers:

President	Mrs. Jennie Houser 899 Madison Avenue, Memphis
Vice-President	Mrs. Gertrude Troster 654 Stonewall Place, Memphis

Secretary-Treasurer	Jean O'Brien 869 Madison Avenue, Memphis
Board of Directors	Mrs. Jennie Houser, Chairman Mrs. Gertrude Troster Jean O'Brien Jewell Fink Bessie Caldwell Mrs. Lucy Gaffney Grace Skinner Alice Little Gertrude Hood Jacqueline Kooyman

TEXAS

Twenty-eight members were present at the third annual convention of the Texas Association in Houston April 9 and 10, 1938. The following appeared on the program:

Mr. C. E. Hunt, President, Texas Hospital Association

Mr. Robert Jolly, Memorial Hospital, Houston, Texas

Dorothy M. Hoadley, President, Texas Association of Nurse Anesthetists

Sallie F. Knight, Baylor University Hospital School of Anesthesia, Dallas—
"Convulsions in Ether Anesthesia"
followed by a discussion conducted by Fay M. DeVet, Austin, Texas

L. E. Williford, M.D., Houston, Texas—
"Sodium Amytal and Ether Anesthesia for Thyroidectomies"

John T. Moore, M.D., Medical Arts Building, Houston, Texas

Minnie V. Haas, St. Joseph's Hospital, Fort Worth—
"Cyclopropane Anesthesia"
followed by discussion conducted by Gertrude Motes Baker, Shannon Hospital, San Angelo

A round table discussion on "Mechanics and Human Errors in Anesthesia" was conducted by Sara Kirven, Torbell Sanitarium, Marlin, Texas.

A clinic was held at the Jefferson-Davis Hospital, conducted by Lydia K. Morse.

A banquet was held the evening of April 8, in conjunction with the Texas Hospital Association.

At the business session the following officers were elected:

President	Elvie Mae Shaver John Sealy Hospital, Galveston
Vice-President	Grace Warren Houston
Secretary-Treasurer	Marcella Ann Cable Hermann Hospital, Houston
Trustee	Gertrude Motes Baker Shannon Hospital, San Angelo

Plans for the National meeting to be held in Dallas in September were discussed in detail. The Texas group is working enthusiastically to make the meeting of the National Association a success, and those who will attend are sure to be accorded a warm welcome. The program promises to be outstanding.

VIRGINIA

The annual meeting of the Virginia Association of Nurse Anesthetists was held March 5, 1938, at the Richmond Hotel, Richmond, Va.

A round table discussion and business meeting followed a dinner which was held in the Old Dutch Room of the Richmond Hotel. Miss Nancy Forgie, Memorial Hospital, Lynchburg, gave a report of the National meeting held last September in Atlantic City.

Miss Virginia Godbey, President, presided at the business meeting, and the following members were present:

Ollie Mae Addleman	Cabiness Hall, Richmond
Clara V. Anderson	Norfolk General Hospital, Norfolk
Vera Copeland	St. Elizabeth's Hospital, Richmond
Mrs. Helen Dalton	Martha Jefferson Hospital, Charlottesville
Nancy F. Forgie	Memorial Hospital, Lynchburg
C. Virginia Godbey	Norfolk General Hospital, Norfolk
Esther H. Hall	Memorial Hospital, Nassawadox
Caren Hawkinson	U. S. Navy Hospital, Portsmouth
Elizabeth N. McGregor	Alexander Hospital, Alexander
Inez O'Connor	Leigh Memorial Hospital, Norfolk
Mrs. Minnie Freese Payne	University Hospital, Charlottesville
Mrs. D. A. Robinson	Stuart Circle Hospital, Richmond
Georgie Scott	Lewis-Gale Hospital, Roanoke
Virginia S. Supinger	Dixie Hospital, Newport News, Va.

Officers elected for the year 1938-39:

President	Virginia Godbey Norfolk General Hospital, Norfolk
Vice-President	Mrs. D. A. Robinson Stuart Circle Hospital, Richmond
Secretary-Treasurer	Katherine Ponti U. S. Marine Hospital, Norfolk
Trustees	
3-year	Esther H. Hall Memorial Hospital, Nassawadox
2-year	Mrs. Minnie Freese Payne University Hospital, Charlottesville

The following committees were appointed:

Membership	Mrs. Minnie Freese Payne, Chairman Virginia S. Supinger Georgie Scott
Program	Mrs. D. A. Robinson, Chairman

At this meeting the anesthetists from Richmond and Charlottesville organized the James Valley Anesthetists' Association, which will include Petersburg. This group plans to hold monthly meetings. Miss Virginia Godbey was elected President; Mrs. D. A. Robinson, Vice-President; and Miss Ollie M. Addleman, Secretary-Treasurer of this sectional group. Within a short time the Roanoke group plans to organize, and we believe the interest manifested in the group meetings in Virginia speaks well for the future of this Association and offers an excellent example worthy of emulation by other state organizations.

Mildred Kitchen, R. N.

Miss Mildred Kitchen, formerly employed at Swedish Hospital, Minneapolis, Minn., died in Pittsburgh, Pa., December 14, 1937. Miss Kitchen organized the Minnesota Association of Nurse Anesthetists and served as the first President of that organization. She was always an active and enthusiastic worker for the nurse anesthetists.

COMMITTEES 1937-1938

Publishing	Gertrude L. Fife, Chairman Louise Schwarting Jewelle Fink Mary Vine Allison
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First Vice President—Hattie Vickers

Second Vice President—Rosalie C. McDonald

Third Vice President—C. Virginia Godbey

Historian—Helen K. Craven

Executive Secretary—Anna Willenborg

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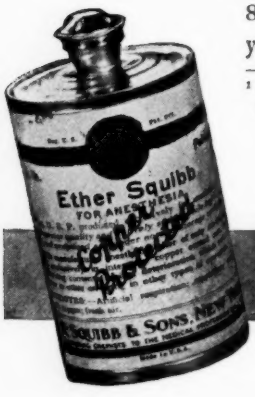
[1] Lundy, J. S.: Inhalation Anesthesia, *Med. Record & Annals of Houston, Texas,* 30:723 (May) 1936.



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